Compaq Presario CQ62 Notebook PC
HP G62 Notebook PC

Maintenance and Service Guide

Document Part Number: 602633-001

January 2010

This guide is a troubleshooting reference used for maintaining and servicing the computer. It provides comprehensive information on identifying computer features, components, and spare parts; and performing computer disassembly procedures

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Revision History

Revision	Publication Date	Description
A	October 2010	■ Chapter 1 — added new descriptions for the following components: ❏ Hard drive ❏ Memory module ❏ Processor ❏ WLAN module
		■ Chapter 3 and Chapter 4 —added new spare part numbers and descriptions for the following components: ❏ Base enclosure ❏ Display assembly ❏ Display back cover ❏ Display bezel ❏ Hard drive ❏ Memory module ❏ Optical drive ❏ Processor ❏ System board ❏ Thermal module Top cover ❏ WLAN module
B	December 2010	■ Chapter 3 and Chapter 4 —added new spare part numbers for the following components: ❏ Processor ❏ System board ❏ WLAN module

Safety warning notice

WARNING: To reduce the possibility of heat-related injuries or of overheating the computer, do not place the computer directly on your lap or obstruct the computer air vents. Use the computer only on a hard, flat surface. Do not allow another hard surface, such as an adjoining optional printer, or a soft surface, such as pillows or rugs or clothing, to block airflow. Also, do not allow the AC adapter to contact the skin or a soft surface, such as pillows or rugs or clothing, during operation. The computer and the AC adapter comply with the user-accessible surface temperature limits defined by the International Standard for Safety of Information Technology Equipment (IEC 60950).

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Product description

Category	Description	Presario CQ62 Intel UMA	Presario CQ62 Intel Discrete	HP G62 UMA	HP G62 Discrete
Product name	Compaq Presario CQ62 Notebook PC	X	X		
	HP G62 Notebook PC			X	X
Processors	Intel® Core™ i7-620M Processor (4M cache, 2.66 GHz, SC turbo up to 3.33 GHz)	X	X	X	X
	Intel Core i5-540M Processor (3M cache, 2.53 GHz, SC turbo up to 3.06 GHz)	X	X	X	X
	Intel Core i5-520M Processor (3M cache, 2.4 GHz, SC turbo up to 2.93 GHz)	X	X	X	X
	Intel Core i5-430M Processor (3M cache, 2.26 GHz, SC turbo up to 2.53 GHz)	X	X	X	X
	Intel Core i3-350M Processor (3M cache, 2.26 GHz)	X	X	X	X
	Intel Core i3-330M Processor (3M cache, 2.13 GHz)	X	X	X	X
	Intel Core i7-620M Processor (4M cache, 2.66 GHz, SC turbo up to 3.33 GHz)	X	X	X	X
	Intel Core i5-540M Processor (3M cache, 2.53 GHz, SC turbo up to 3.06 GHz)	X	X	X	X
	Intel Core i5-520M Processor (3M cache, 2.4 GHz, SC turbo up to 2.93 GHz)	X	X	X	X
	Intel Core i5-430M Processor (3M cache, 2.26 GHz, SC turbo up to 2.53 GHz)	X	X	X	X
	Intel Core i3-350M Processor (3M cache, 2.26 GHz)	X	X	X	X
	Intel Core i3-330M Processor (3M cache, 2.1 GHz)	X	X	X	X
	Intel Penryn T4300 Processor (3M cache, 2.1 GHz)	X	X	X	X
	Intel Penryn T3100 Processor (3M cache, 1.9 GHz)	X	X	X	X
	Intel Penryn T4400 Processor (3M cache, 2.2 GHz)	X	X	X	X
	Intel Penryn T3300 Processor (3M cache, 2.0 GHz)	X	X	X	X
	Pentium Arrandale P6000 Processor (3M cache, 1.86 GHz)	X	X	X	X

Continued

Category	Description	Presario CQ62 Intel UMA	Presario CQ62 Intel Discrete	HP G62 UMA	HP G62 Discrete
	Pentium Arrandale P6100 Processor (3M cache, 2.0 GHz)	X	X	X	X
	Intel Penryn T4500 Processor (3M cache, 2.3 GHz)	X	X	X	X
	Intel Core i5-450M Processor (3M cache, 2.4 GHz, SC turbo up to 2.53 GHz)	X	X	X	X
	Intel Core i3-370M Processor (3M cache, 2.4 GHz, SC turbo up to 2.53 GHz)	X	X	X	X
	Intel Core i5-560M Processor (3M cache, 2.66-3.2 GHz, SCturbor up to 2.53 GHz)	X	X	X	X
	Intel Core i5-460M Processor (3M cache, 2.53 GHz, SC turbor up to 2.53 GHz)	X	X	X	X
	Intel Core i3-380M Processor (3M cache, 2.53 GHz, SC turbo up to 2.53 GHz)	X	X	X	X
	Intel Pentium P6200 Processor (3M cache, 2.13 GHz)	X	X	X	X
	Intel Core i5-580M Processor (3M cache, 2.66-3.33 GHz, SC turbor up to 2.53 GHz)	X	X	X	X
	Intel Penryn T3500 Processor (3M cache, 2.1 GHz)	X	X	X	X
	Intel Celeron 900 Processor (3M cache, 2.2 GHz)	X	X	X	X
	Intel Pentium P6300 Processor (3M cache, 2.26 GHz)	X	X	X	X
	Intel Processor i3-390M (2.66 GHz)	X	X	X	X
	Intel i5-480M Processor (2.3 GHZ)	X	X	X	X
	Intel Celeron 925 Processor (2.3 GHz)	X	X	X	X
	Intel Core i3-330M Processor (3M cache, 2.13 GHz)	X	X	X	X
Chipset	Intel HM55	X	X	X	X
Graphics	IATI Mobility Radeon™ HD5430 with 512 MB dedicated video memory		X		X
	Intel HD Graphics (UMA, integrated) with shared video memory	X		X	
	■ Up to 251 MB of graphics subsystem memory when total system RAM equals or is greater than 1024 MB				
	■ Up to 358 MB of graphics subsystem memory when total system RAM equals or is greater than 2048 MB				

Continued

Category	Description	Presario CQ62 Intel UMA	Presario CQ62 Intel Discrete	HP G62 UMA	HP G62 Discrete
	Switchable Discrete Graphics ■ ATi Robson XT (ATI Mobility Radeon™ HD6370) with 512MB of dedicated memory (64Mx16 DDR3 800 MHz x 4 PCs) ■ ATi Robson XT (ATI Mobility Radeon™ HD6370) with 1GB of dedicated memory (128Mx16 DDR3 800 MHz x 4 PCs)		X		X
Panel	**39.6-cm** (15.6-in) HD LED BrightView display panel (1366 × 768)	X	X	X	X
	16:9 Wide Aspect Ratio	X	X	X	X
Memory	2 customer-accessible/upgradable SODIMM slots	X	X	X	X
	Supports dual-channel memory DDR3, 1066 MHz	X	X	X	X
	Supports up to 8 GB of system memory	X	X	X	X
	Supports the following configurations:				
	■ 4096 MB total system memory (2048 × 2)	X	X	X	X
	■ 3072 MB total system memory (2048 × 1 + 1024 × 1)	X	X	X	X
	■ 2048 MB total system memory (2048 × 1, 1024 × 2)	X	X	X	X
	■ 1024 MB total system memory (1024 × 1)	X	X	X	X
Hard drives	Supports all **9.5-mm**, **6.35-cm** (2.50-in) SATA hard drives	X	X	X	X
	Customer accessible	X	X	X	X
	Single hard drive configurations:				
	750 GB, 5400 rpm	X	X	X	X
	640 GB, 5400 rpm	X	X	X	X
	500 GB, 7200 rpm	X	X	X	X
	320 GB, 7200 rpm	X	X	X	X
	250 GB, 7200 rpm	X	X	X	X
	160 GB, 7200 rpm	X	X	X	X
Optical drives	12.7 mm fixed SATA tray load	X	X	X	X
	DVD±RW and CD-RW SuperMulti Double-Layer Combo Drive with LightScribe	X	X	X	X
	Blu-ray ROM with LightScribe DVD±R/RW SuperMulti Double-Layer Drive	X	X	X	X
Webcam (select models only)	VGA camera, fixed angle with activity light and single analog microphone	X	X	X	X
Microphone	Integrated single analog microphone (for models with no webcam)	X	X	X	X

Continued

Category	Description	Presario CQ62 Intel UMA	Presario CQ62 Intel Discrete	HP G62 UMA	HP G62 Discrete
Audio	High-definition audio supports Microsoft® premium requirements with Presario/HP Altec Lansing speakers	X	X	X	X
Modem (select models only)	56K V.92 data/fax MDC modem (computer models not equipped with a modem have a cover over the RJ-11 jack opening)	X	X	X	X
	Supports all worldwide certification requirements	X	X	X	X
Ethernet	Integrated 10/100 network interface card (NIC)	X	X	X	X
	Realtek 8102E	X	X	X	X
Wireless	**Integrated wireless local area network (WLAN) by way of wireless module:**				
	2 wireless antennas built into display assembly	X	X	X	X
	Support for no-WLAN option	X	X	X	X
	Support for the following WLAN formats:			X	X
	■ Atheros 54g 802.11 b/g	X	X	X	X
	■ Atheros 54g 802.11 b/g with Bluetooth	X	X	X	X
	■ Broadcom 54g 802.11 b/g	X	X	X	X
	■ Broadcom 54g 802.11 b/g with Bluetooth	X	X	X	X
	■ Intel Wi-Fi 5100	X	X	X	X
	■ Intel Wi-Fi 5100 with Bluetooth	X	X	X	X
External media cards (select models only)	Digital Media Slot supporting SD, MMC, MS, MSPro, xD cards. Supports mini versions of SD, MMC, MS Duo with adapter, not included	X	X	X	X
Ports	Audio-in (stereo microphone)	X	X	X	X
	Audio-out (stereo headphone)	X	X	X	X
	High-Definition Multimedia Interface (HDMI) version 1.3 supporting 1080p with High-bandwidth Digital Content Protection (HDCP) key (select models only)	X	X	X	X
	Hot plut/unplug with auto-detect	X	X	X	X
	RJ-11 (modem, select models only)	X	X	X	X
	RJ-45 (Ethernet)	X	X	X	X
	USB (3; one is an eSATA/USB port)	X	X	X	X
	VGA (Dsub 15-pin) supporting 1600 × 1200 external resolution at 75 Hz	X	X	X	X
	Multi-pin AC power	X	X	X	X
Keyboard and TouchPad	Full-size keyboard, **39.62-cm** (15.6-in) with numeric keypad	X	X	X	X
	Supports 2-way scroll with legend	X	X	X	X
	Taps enabled as default	X	X	X	X

Continued

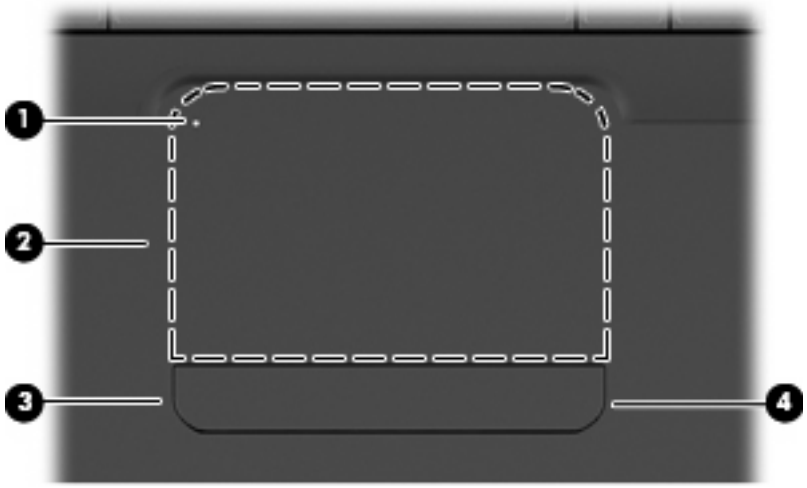
Category	Description	Presario CQ62 Intel UMA	Presario CQ62 Intel Discrete	HP G62 UMA	HP G62 Discrete
Power requirements	65-W AC adapter with localized cable plug support	X		X	
	90-W AC adapter with localized cable plug support		X		X
	6-cell, 2.20 Ah, 47 Wh battery	X	X	X	X
Security	Kensington Security Lock	X	X	X	X
Operating system	**Preinstalled:**				
	Windows 7® Professional 32 and 64-bit	X	X	X	X
	Windows 7 Home Premium 32 and 64-bit	X	X	X	X
	Windows 7 Home Basic 32 and 64-bit	X	X		
	FreeDOS	X	X		
Serviceability	**End-user replaceable parts:**				
	AC adapter	X	X	X	
	Battery (system)	X	X	X	
	Hard drive	X	X	X	X
	Memory module	X	X	X	X
	Optical drive	X	X	X	X
	Mini Card components	X	X	X	X

2

External component identification

Top components

TouchPad



Item	Component	Function
1	TouchPad light	Off—Touchpad is on. Amber—Touchpad is off.
2	TouchPad*	Moves the pointer and selects or activates items on the screen.
3	Left TouchPad button*	Press the left side of the TouchPad button to execute functions like the left button on an external mouse.
4	Right TouchPad button*	Press the right side of the TouchPad button to execute functions like the left button on an external mouse.

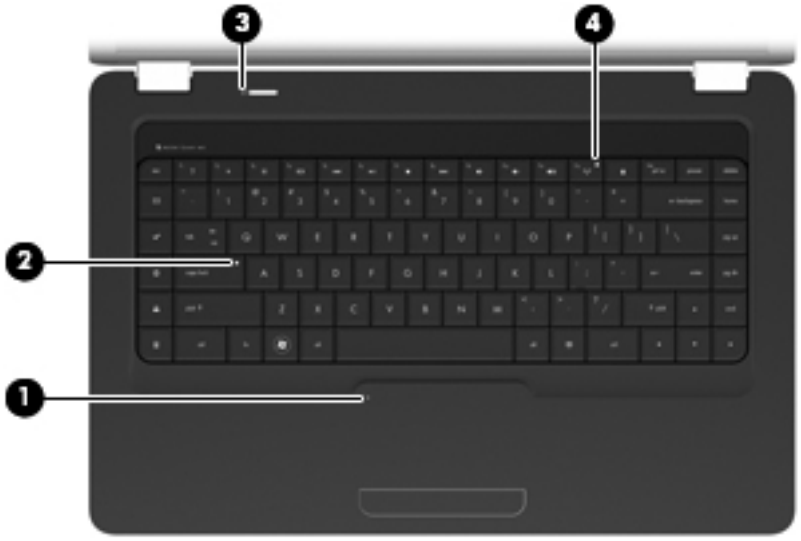
*This table describes factory settings.

To view or change the pointing device preferences:

1. Select **Start > Devices and Printers**.
2. Right-click the device representing the computer.
3. Select **Mouse settings**.

Lights

Your computer might look slightly different from the illustration in this section.



Item	Component	Description
1	Touchpad light	Off—TouchPad is enabled. Amber—TouchPad is disabled.
2	Caps lock light	On—Caps lock is on.
3	Power light	On—The computer is on. Flashing—The computer is in Sleep. Off—The computer is off or in Hibernation.
4	Wireless on/off light	White—An integrated wireless device, such as a wireless local area network (WLAN) device and/or a Bluetooth device, is on. Amber—No wireless devices are detected.

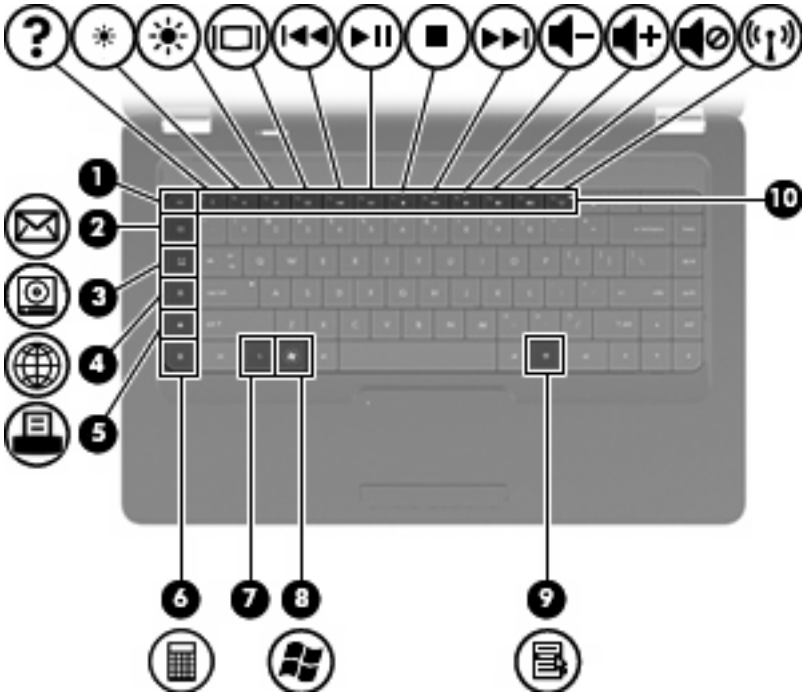
Buttons

Item	Component	Description
1	Speakers grill	Two integrated speakers produce sound.
2	Power button*	■ When the computer is off, press the button to turn on the computer. ■ When the computer is on, press the button to initiate Sleep. ■ When the computer is in Sleep, press the button to exit Sleep. ■ When the computer is in Hibernation, press the button to exit Hibernation. If the computer has stopped responding and Windows shutdown procedures are ineffective, press and hold the power button for at least 5 seconds to turn off the computer. To learn more about your power settings, select **Start** > **Control Panel** > **System and Security** > **Power Options**.

*This table describes factory settings. For information about changing factory settings, see the user guides located in Help and Support.

Keys

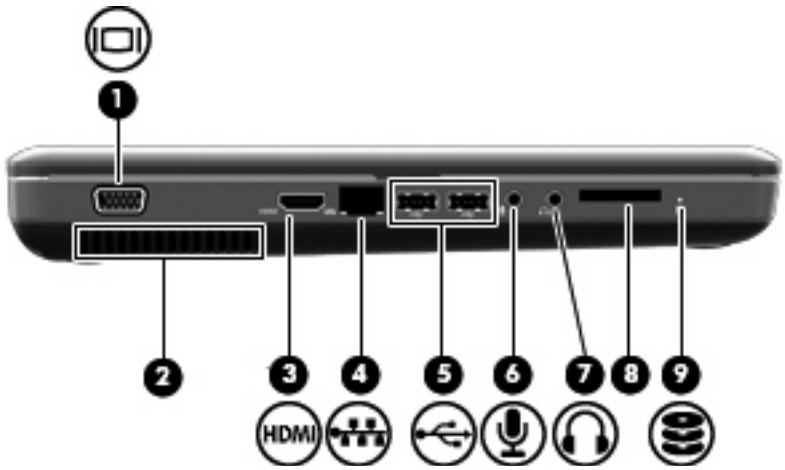
Your computer might look slightly different from the illustration in this section.



Item	Component	Description
1	esc key	Displays system information when pressed at the same time as the **fn** key.
2	Send e-mail key	Opens a new e-mail in your default e-mail client.
3	Media application key	Launches CyberLink PowerDVD.
4	Web browser key	Launches default web browser.
5	Print key	Sends the currently-active document to the default printer.
6	Calculator key	Launches the calculator application.
7	**fn** key	Displays system information when pressed in conjunction with the **esc** key.
8	Windows logo key	Displays the Windows Start menu.
9	Windows applications key	Displays a shortcut menu for items where the cursor is positioned.
10	Actions keys	Executes frequently-used system actions.

Left-side components

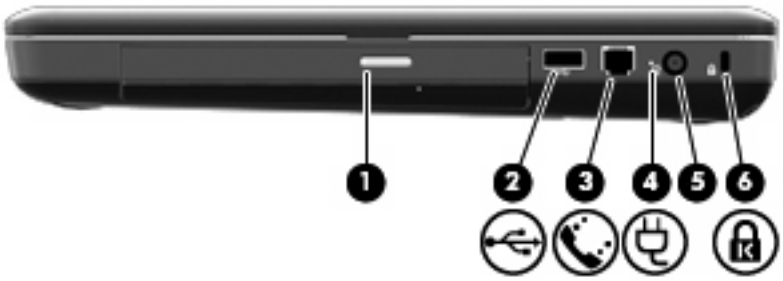
Your computer might look slightly different from the illustration in this section.



Item	Component	Function
1	External monitor port	Connects an external VGA monitor or projector.
2	Vent	Enables airflow to cool internal components. The computer fan starts up automatically to cool internal components and prevent overheating. It is normal for the internal fan to cycle on and off during routine operation.
3	HDMI port (select models only)	Connects an optional video or audio device, such as a high-definition television, or any compatible digital or audio component. Depending on your computer model, the computer might include an HDMI port or a USB port at this location.
4	RJ-45 (network) jack	Connects a network cable.
5	USB ports (2)	Connects an optional USB device.
6	Audio-in (microphone) jack	Connects an optional computer headset microphone, stereo array microphone, or monaural microphone.
7	Audio-out (headphone) jack	Produces sound when connected to optional powered stereo speakers, headphones, earbuds, a headset, or television audio.
8	Digital media slot (select models only)	Support the following optional digital card formats: ■ Memort Stick (MS) ■ Memory Stick Pro (MSP) ■ MultiMediaCard (MMC) ■ Secure Digital (SD) Memory Card ■ xD-Picture Card (XD)
9	Drive light	On—The hard drive is in use.

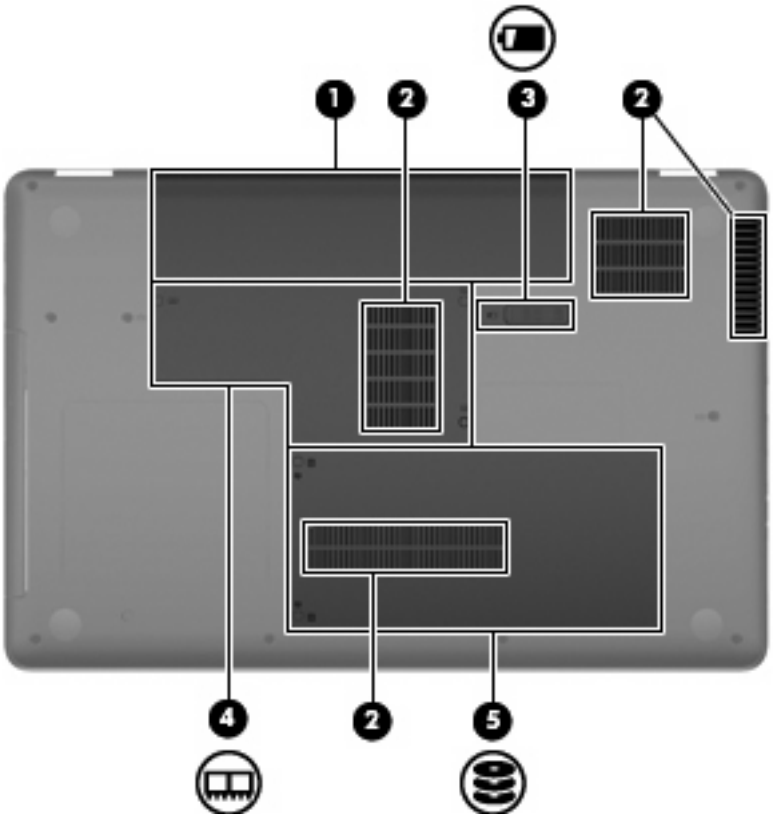
Right-side components

Your computer might look slightly different from the illustration in this section.



Item	Component	Function
1	Optical drive light	Flashing—The optical drive is being accessed.
2	USB port	Connects to an optional USB device.
3	RJ-11 (modem) jack (select models only)	Connects a modem cable.
4	AC adapter light	Flashing white—The computer is in Sleep. On white—The computer is connected to external power. Flashing amber—The computer is charged. Off—The computer is not connected to external power.
5	Power connector	Connects an AC adapter
6	Security cable slot	Attaches an optional security cable to the computer. The security cable is designed to act as a deterrent, but it might not prevent the computer from being mishandled or stolen.

Bottom components



Item	Component	Function
1	Battery bay	Holds the battery.
2	Vents (4)	Enable airflow to cool internal components. ✎ The computer fan starts up automatically to cool internal components and prevent overheating. It is normal for the internal fan to cycle on and off during routine operation.
3	Battery release latch	Releases the battery from the battery bay.
4	Memory module compartment	Contains two memory module slots. Holds a wireless LAN module. △ To prevent an unresponsive system, replace the wireless module with only a wireless module authorized for use in the computer by the governmental agency that regulates wireless devices in your country or region. If you replace the module and then receive a warning message, remove the module to restore computer functionality, and then contact technical support through Help and Support.
5	Hard drive bay	Holds the hard drive.

Display components

Item	Component	Description
1	Internal microphone	Records sound
2	Webcam (select models only)	Records audio and video and captures still photographs
3	Webcam light (select models only)	On—The webcam is in use.

Wireless antennas

The computer model has at least 2 antennas that send and receive signals from 1 or more wireless devices. These antennas are not visible from the outside of the computer.

For optimal transmission, keep the areas immediately around the antennas free from obstructions.

To see wireless regulatory notices, see the section of the *Regulatory, Safety and Environmental Notices* that applies to your country or region. These notices are located in Help and Support.

Additional hardware components

Item	Component	Description
1	Power cord*	Connects an AC adapter to an AC outlet.
2	AC adapter	Converts AC power to DC power.
3	Battery*	Powers the computer when the computer is not connected to external power.

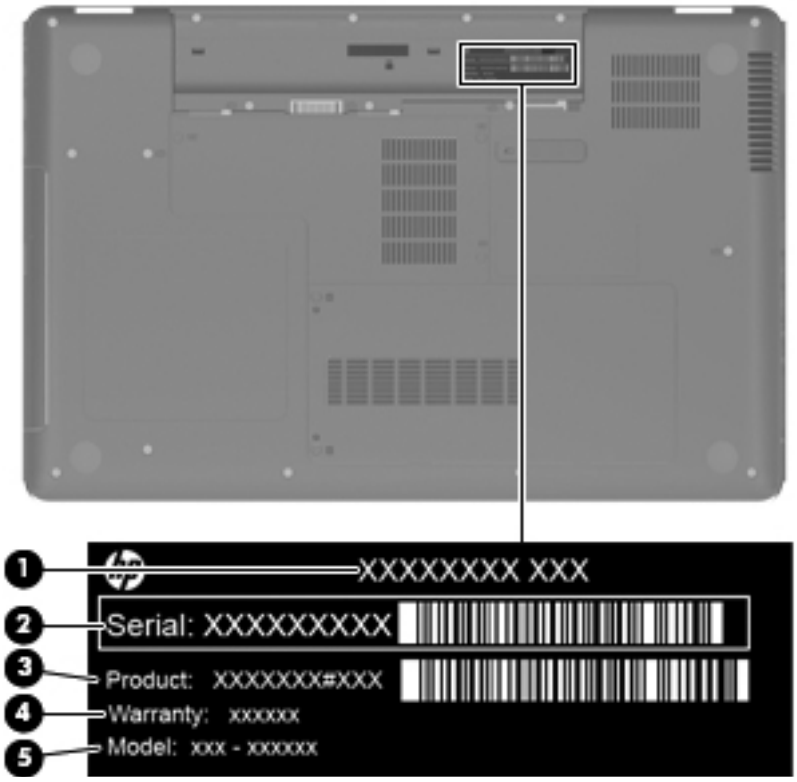
*Batteries and power cords vary in appearance by region and country.

3

Illustrated parts catalog

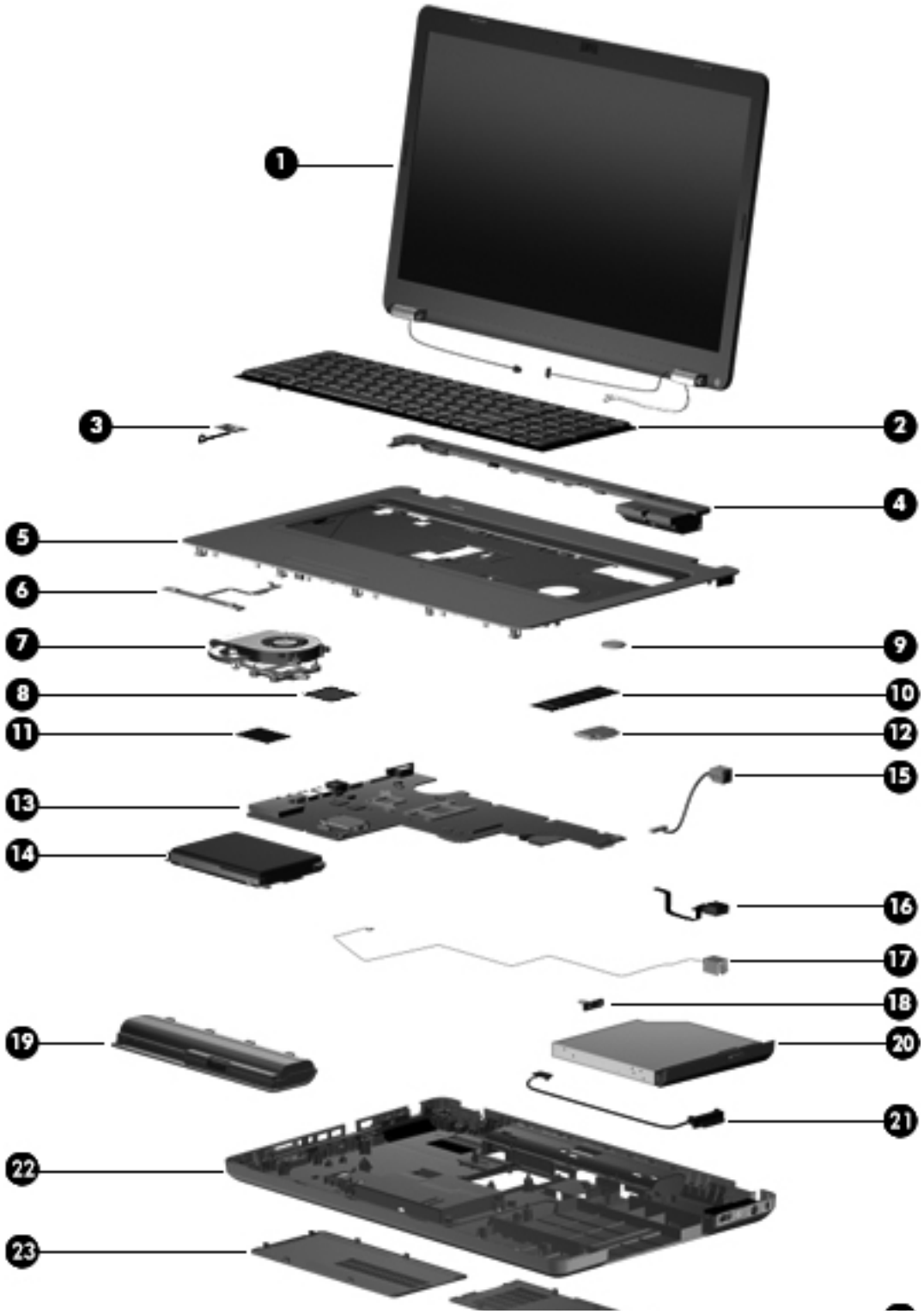
Service tag

When ordering parts or requesting information, provide the computer serial number and model number located on the service tag.



Component		Description
1	Product name	The name affixed to the front of the computer.
2	Serial number (s/n)	An alphanumeric identifier that is unique to each product.
3	Part number/Product number (p/n)	This number provides specific information about the product's hardware components. The part number helps a service technician to determine what components and parts are needed.
4	Warranty period	The duration of the warranty period for the computer.
5	Model description	An alphanumeric identifier used to locate documents, drivers, and support for the computer.

Computer major components



Item	Description	Spare part number
1	**39.6-cm (15.6-in) High Definition (HD), light-emitting diode (LED) display assembly for use in:**	
	HP G62 biscotti computer models	595185-001
	HP G62 biscotti computer models with webcam	595186-001
	Presario CQ62 biscotti computer models	602170-001
	Presario CQ62 biscotti computer models with webcam	602171-001
	Presario CQ62 matte black computer models	595187-001
	Presario CQ62 matte black computer models with webcam	595188-001
	HP G62 silver computer models (for model 1.1 only)	605141-001
	HP G62 silver computer models with webcam (for model 1.1 only)	605142-001
	HP G62 matte black computer models (for model 1.1 only)	608109-001
	HP G62 matte black computer models with webcam (for model 1.1 only)	608110-001
	HP G62 charcoal computer models (for models 1.2 and 1.3 only)	615583-001
	HP G62 charcoal computer models with webcam (for models 1.2 and 1.3 only)	615584-001
	HP biscotti computer model (for models 1.1 only)	616452-001
	HP G62 imperial blue computer models (for models 1.2 and 1.3 only)	622562-001
	HP G62 imperial blue computer models with webcam (for models 1.2 and 1.3 only)	622563-001
2	**Power button board**	595204-001
3	**Keyboard** (includes keyboard cable) for use in:	
	Adriatics	595199-BA1
	Belgium	595199-A41
	Brazil (for model 1.1 only)	595199-201
	Canada	595199-121
	Czech Republic	595199-221
	France	595199-051
	Germany	595199-041
	Greece	595199-DJ1
	Hungry	595199-211
	for International use	595199-B31
	Israel	595199-BB1
	Italy	595199-061
	Japan	595199-291
	Korea	595199-AD1
	Latin America (for model 1.1 only)	595199-161
	North America	595199-001
	Norway	595199-DH1
	Portugal	595199-131
	Russia	595199-251

Continued

Item	Description	Spare part number
	Saudi Arabia	595199-171
	Spain	595199-071
	Switzerland	595199-BG1
	Taiwan	595199-AB1
	Thailand	595199-281
	Turkey	595199-141
	United Kingdom	595199-031
4	**Speaker assembly** (includes cable)	602744-001
5	**Top cover** (includes TouchPad board) for use in:	
	Biscotti computer models	595206-001
	Matte black computer models (for models 1.0 and 1.1 only)	595207-001
	Charcoal computer models (for models 1.2 and 1.3 only)	615590-001
	Silver computer models (for model 1.1 only)	605147-001
	Imperial blue computer models (for models 1.2 and 1.3 only)	622567-001
6	**Fan/heat sink assembly** (includes replacement thermal material) for use with:	
	UMA systems	595832-001
	Discrete systems	595833-001
	GL40 UMA systems (for models 1.1 and 1.2 only)	606573-001
	Thermal module HD545V discrete (for model 1.1 only)	617024-001
	Thermal module for discrete systems (for model 1.3 only)	634650-001
	Thermal module for UMA (for model 1.3 only)	634651-001
	Thermal pad kit for South Bridge chipset	634433-001
7	**Touchpad button board**	595203-001
8	**Modem module** (select models only)	
	All countries and regions except for Australia and New Zealand (for models 1.0 and 1.1 only)	510100-001
	Australia and New Zealand (for models 1.0 and 1.1 only)	510100-011
9	**RTC battery**	602745-001
10	**System board**	
	HM55 Discrete system board (for models 1.0 and 1.1 only)	595181-001
	HM55 UMA system board	595182-001
	HM55 HDMI Discrete system board (for models 1.0 and 1.1 only)	595183-001
	HM55 HDMI UMA system board	595184-001
	HM55 HD545V discrete system board (for model 1.1 only)	615577-001
	HM55 HD545V discrete system board with HDMI card reader (for model 1.1 only)	615578-001
	GL40 UMA system board (for models 1.1 and 1.2 only)	605139-001
	GL40 UMA system board with HDMI card reader (for models 1.1 and 1.2 only)	605140-001
	HD5470/512 MB discrete system board (for model 1.2 only)	615579-001

Continued

Item	Description	Spare part number
	HD5470/512 MB discrete system board with HDMI card reader (for model 1.2 only)	615580-001
	HD5470/1 G discrete system board (for model 1.2 only)	615581-001
	HD5470/1 G discrete system board with HDMI card reader (for model 1.2 only)	615582-001
	GL40 DDR2 UMA system board (for model 1.1 only)	616448-001
	GL40 DDR2 UMA system board with HDMI card reader (for model 1.1 only)	616449-001
	HM55 WiMax UMA system board with HDMI card reader (for model 1.3 only)	628482-001
	HD6370/512 MB discrete system board (for model 1.3 only)	631593-001
	HD6370/1 GB discrete system board (for model 1.3 only)	631594-001
	HD6370/512 MB discrete system board with HDMI card reader (for model 1.3 only)	631595-001
	HD6370/1 GB discrete system board with HDMI card reader (for model 1.3 only)	631596-001
	i3-350M UMA system board (for model 1.3 only)	634648-001
	HD6370/512 MB i3-350M discrete system board (for model 1.3 only)	634649-001
	i3-370M UMA system board (for model 1.3 only)	637583-001
	HD6370/512 MB i3-370M (for model 1.3 only)	637584-001
11	**Memory module** (1066 MHz, DDR3)	
	1 GB (1066 MHz, DDR3)	598859-001
	2 GB (1066 MHz, DDR3)	598856-001
	4 GB (1066 MHz, DDR3) (for models 1.2 and 1.3 only)	599092-001
	1 GB (6400 MHz, DDR2) (for model 1.1 only)	619545-001
	2 GB (6400 MHz, DDR2) (for model 1.1 only)	619546-001
12	**Hard drive** (includes hard drive bracket and screws)	
	750 GB, 5400 rpm (for models 1.2 and 1.3 only)	603787-001
	640 GB, 5400 rpm (for models 1.1, 1.2 and 1.3 only)	603785-001
	500 GB, 7200 rpm	634919-001
	320 GB, 7200 rpm	599055-001
	250 GB, 7200 rpm	599054-001
	160 GB, 7200 rpm (for models 1.0, 1.1 and 1.2 only)	599053-001
	Hard Drive Hardware Kit (not illustrated, includes bracket and screws)	599057-001
13	**Processor** (includes replacement thermal material)	
	Intel Core i7-620M Processor (4M cache, 2.66 GHz, SC turbo up to 3.33 GHz) (for model 1.0 only)	587259-001
	Intel Core i5-540M Processor (3M cache, 2.53 GHz, SC turbo up to 3.06 GHz) (for models 1.0, 1.1 and 1.2 only)	594188-001
	Intel Core i5-520M Processor (3M cache, 2.4 GHz, SC turbo up to 2.93 GHz) (for models 1.0, 1.1 and 1.2 only)	594187-001
	Intel Core i5-430M Processor (3M cache, 2.26 GHz, SC turbo up to 2.53 GHz) (for models 1.0, 1.1 and 1.2 only)	597624-001
	Intel Core i3-350M Processor (3M cache, 2.26 GHz) (for models 1.0, 1.1 and 1.2 only)	597623-001
	Intel Core i3-330M Processor (3M cache, 2.13 GHz) (for model 1.0 only)	597622-001

Continued

Item	Description	Spare part number
	Intel Penryn T4300 Processor (3M cache, 2.1 GHz) (for model 1.1 only)	572929-001
	Intel Penryn T3100 Processor (3M cache, 1.9 GHz) (for model 1.1 only)	572925-001
	Intel Penryn T4400 Processor (3M cache, 2.2 GHz) (for models 1.1 and 1.2 only)	584296-001
	Intel Penryn T3300 Processor (3M cache, 2.0 GHz) (for models 1.1 and 1.2 only)	592399-001
	Pentium Arrandale P6000 Processor (3M cache, 1.86 GHz) (for models 1.1 and 1.2 only)	613586-001
	Pentium Arrandale P6100 Processor (3M cache, 2.0 GHz) (for models 1.2 and 1.3 only)	613587-001
	Intel Penryn T4500 Processor (3M cache, 2.3 GHz) (for model 1.1 only)	591880-001
	Intel Core i5-450M Processor (3M cache, 2.4 GHz, SC turbo up to 2.53 GHz) (for models 1.1, 1.2 and 1.3 only)	613585-001
	Intel Core i3-370M Processor (3M cache, 2.4 GHz, SC turbo up to 2.53 GHz) (for models 1.1, 1.2 and 1.3 only)	613584-001
	Intel Core i5-560M Processor (3M cache, 2.66-3.2 GHz, SC turbo up to 2.53 GHz) (for models 1.2 and 1.3 only)	625824-001
	Intel Core i5-460M Processor (3M cache, 2.53 GHz, SC turbo up to 2.53 GHz) (for models 1.2 and 1.3 only)	626039-001
	Intel Core i3-380M Processor (3M cache, 2.53 GHz, SC turbo up to 2.53 GHz) (for models 1.2 and 1.3 only)	625823-001
	Intel Pentium P6200 Processor (3M cache, 2.13 GHz) (for models 1.2 and 1.3 only)	625831-001
	Intel Core i5-580M Processor (3M cache, 2.66-3.33 GHz, SC turbo up to 2.53 GHz) (for model 1.2 and 1.3 only)	625825-001
	Intel Penryn T3500 Processor (3M cache, 2.1 GHz) (for model 1.2 only)	625830-001
	Intel Celeron 900 Processor (3M cache, 2.2 GHz) (for models 1.1 and 1.2 only)	534419-001
	Intel Pentium P6300 Processor (3M cache 2.26 GHz) (for model 1.3 only)	635500-001
	Intel Processor I3-390M 2.66GHz (for model 1.3 only)	634692-001
	Intel 15-480MProcessor 2.3GHz (for model 1.3 only)	634693-001
	Intel Celeron 925 Processor 2.3GHz (for model 1.3 only)	636636-001
	Thermal pad kit for processor	634428-001
14	**Wireless (WLAN) module**	
	Atheros AR9285 802.11 a/b/g/n 2x2 WiFi adapter for use in Canada, the Cayman Islands, Guam, Puerto Rico, the United States, and the US Virgin Islands	580101-001

Continued

Item	Description	Spare part number
	Atheros AR9285 802.11 a/b/g/n 2x2 WiFi adapter for use in Afghanistan, Albania, Algeria, Andorra, Angola, Antigua and Barbuda, Argentian, Armenia, Australia, Austria, AzerbaijanBahamas, Bahrain, Barbados, Belgium, Belize, Benin, Bhutan, Bosnia and Herzegovina, Botswana, Brazil, Brunei, Bulgeria, Burkina Faso, Burundi, Cambodia, Cameroon, Cape Verde, Central African Republic, Chad, Chile, China, Colombia, Comoros, Congo, Costa Rica, Croatia, Cyprus, Czech Republic, Zaire, Denmark, Djibouti, Dominica, Dominican Republic, Ecuador, Egypt, El Salvador, Equitorial Guinea, Eritrea, Estonia, Ethiopia, Fiji, Finland, France, Gabon, Gambia, Georgia, Germany, Ghana, Gibraltar, Greece, Grenada, Guatemala, Guinea, Guinea-Bissa, Guyana, Haiti, Honduras, Hong Kong, Hungary, Iceland, India, Indonesia, Ireland, Italy, Ivory Coast, Jamaica, Japan, Jordan, Kazakhstan, Kenya, Kiribati, Korea-South, Kuwait, Kyrgyzstan, Laos, Latvia, Lebanon, Lesotho, Liberia, Martinique, Nether Antilles, French Guiana, Aruba, British Virgin Islands, Bermuda, Syria, Guadeloupe, Liechtenstein, Lithuania, Luxembourg, Macedonia, Madagaascar, Malawi, Malaysia, Maldives, Mali, Malta, Marshall Islands, Mauritania, Mauritius, Mexico, Micronesia, Monaco, Mongolia, Montenegro, Morocco, Mozambique, Namibia, Nauru, Nepal, Netherlands, New Zealand, Nicaragua, Niger, Nigeria, Norway, Oman, Palau, Panama, Papua New Guinea, Paraguay, Peru, Philippines, Poland, Portugal, Republic of Moldova, Romania, rwanda, Samoa, San Marino, Sao tome and Principe, Saudi Arabia, Senegal, Serbia and Montenegro, Seychelles, Sierra Leone, Singapore, Slovakia, Slovenia, Solomon Islands, Somalia, South Africa, Spain, Sri Lanka, St. Kitts and Nevis, St. Lucia, St. Vincent and Gren, Suriname, Swaziland, Sweden, Switzerland, Taiwan, Tajikistan, Tanzania, Thailand, Timor (East), Togo, Tonga, Trinidad and Tobago, Tunisia, Turkey, Turkmenistan, Tuvalu, Uganda, United Arab Emirates ,United Kingdom, Uruguay, Uzbekistan, Vanuatu, Venezuela, Vietnam, Yemen, Zambia, and Zimbabwe	580101-002
	Intel WiFi Link 5100 802.11/b/g/n WLAN module for use in Afghanistan, Albania, Algeria, Andorra, Angola, Antigua and Barbuda, Argentina, Armenia, Aruba, Australia, Austria, Azerbaijan, the Bahamas, Bahrain, Bangladesh, Barbados, Belarus, Belgium, Belize, Benin, Bermuda, Bhutan, Bolivia, Bosnia and Herzegovina, Botswana, Brazil, the British Virgin Islands, Brunei, Bulgaria, Burkina Faso, Burundi, Cameroon, Canada, Cape Verde, the Cayman Islands, the Central African Republic, Chad, Chile, Colombia, Comoros, the Congo, Costa Rica, Croatia, Cyprus, the Czech Republic, Denmark, Djibouti, Dominica, the Dominican Republic, East Timor, Ecuador, Egypt, El Salvador, Equitorial Guinea, Eritrea, Estonia, Ethiopia, Fiji, Finland, France, French Guiana, Gabon, Gambia, Georgia, Germany, Ghana, Gibraltar, Greece, Grenada, Guadeloupe, Guatemala, Guam, Guinea, Guinea-Bissau, Guyana, Haiti, Honduras, Hong Kong, Hungary, Iceland, India, Ireland, Israel, Italy, the Ivory Coast, Jamaica, Jordan, Kazakhstan, Kenya, Kiribati, Kyrgyzstan, Laos, Latvia, Lebanon, Lesotho, Liberia, Liechtenstein, Lithuania, Luxembourg, Macedonia, Madagascar, Malawi, Malaysia, the Maldives, Mali, Malta, the Marshall Islands, Martinique, Mauritania, Mauritius, Mexico, Micronesia, Monaco, Mongolia, Montenegro, Morocco, Mozambique, Namibia, Nauru, Nepal, the Nether Antilles, the Netherlands, New Zealand, Nicaragua, Niger, Nigeria, Norway, Oman, Palau, Panama, Papua New Guinea, Paraguay, the People's Republic of China, Peru, the Philippines, Poland, Portugal, Puerto Rico, the Republic of Moldova, Romania, Rwanda, Samoa, San Marino, Sao Tome and Principe, Saudi Arabia, Senegal, Serbia and Montenegro, the Seychelles, Sierra Leone, Singapore, Slovakia, Slovenia, the Solomon Islands, Somalia, South Africa, South Korea, Spain, Sri Lanka, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Suriname, Swaziland, Sweden, Switzerland, Taiwan, Tajikistan, Tanzania, Togo, Tonga, Trinidad and Tobago, Tunisia, Turkey, Turkmenistan, Tuvalu, Uganda, the United Arab Emirates, the United Kingdom, Uruguay, the U.S. Virgin Islands, the United States, Uzbekistan, Vanuatu, Venezuela, Vietnam, Yemen, Zaire, Zambia, and Zimbabwe	593530-001
	Intel WiFi Link 5100 802.11/b/g WLAN module for use in Pakistan, Russia, and Ukraine (for model 1.0 only)	593531-001
	Broadcom 4312G 802.11 b/g WiFi adapter for use in Canada, the Cayman Islands, Guam, Puerto Rico, the U.S. Virgin Islands, and the United States (for models 1.0 and 1.1 only)	582562-001

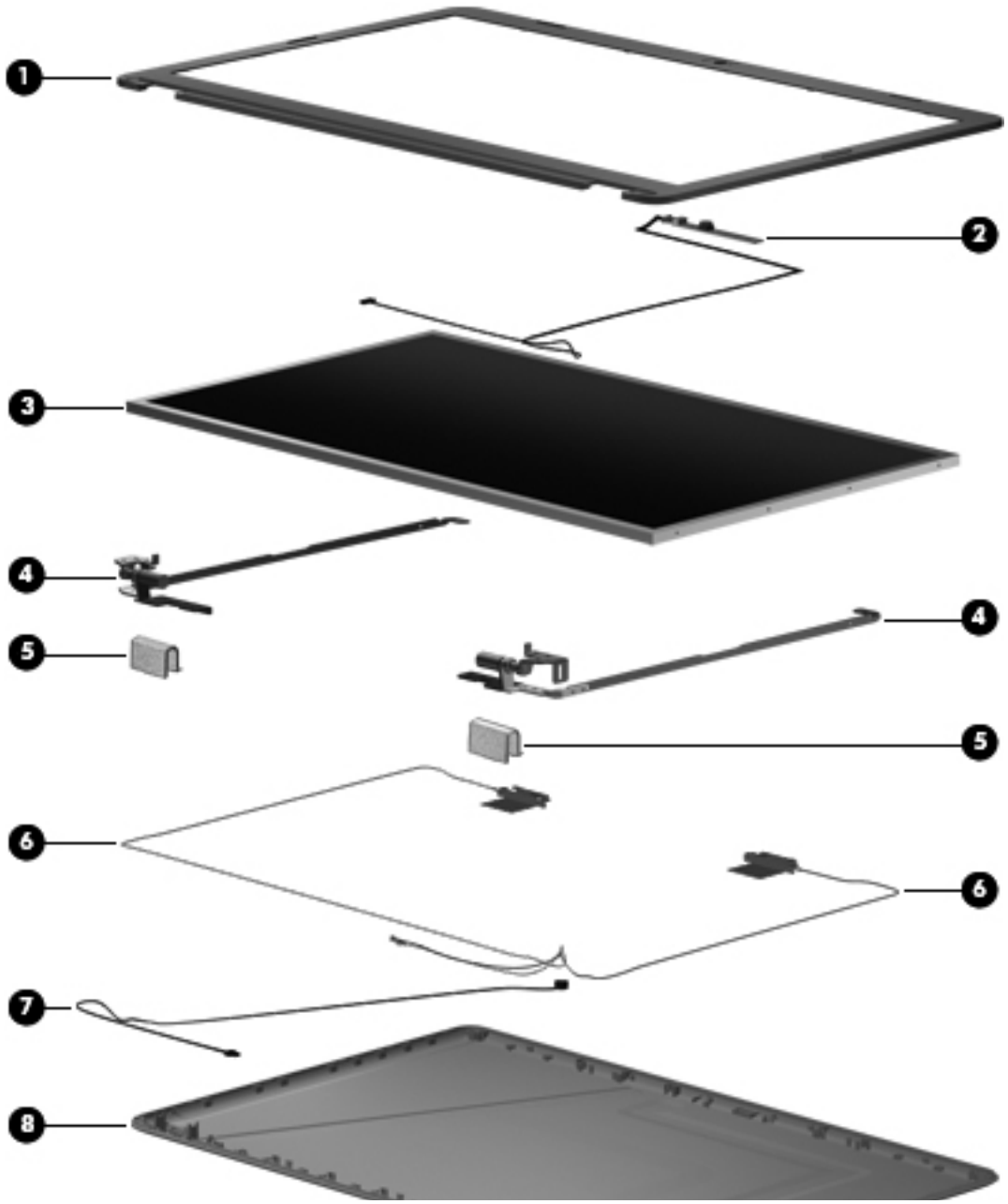
Continued

Item	Description	Spare part number
	Broadcom 4312G 802.11 b/g WiFi adapter for use in Afghanistan, Albania, Algeria, Andorra, Angola, Antigua and Barbuda, Argentina, Armenia, Aruba, Australia, Austria, Azerbaijan, the Bahamas, Bahrain, Bangladesh, Barbados, Belarus, Belgium, Belize, Benin, Bermuda, Bhutan, Bolivia, Bosnia and Herzegovina, Botswana, Brazil, the British Virgin Islands, Brunei, Bulgaria, Burkina Faso, Burundi, Cameroon, Cape Verde, the Central African Republic, Chad, Chile, Colombia, Comoros, the Congo, Costa Rica, Croatia, Cyprus, the Czech Republic, Denmark, Djibouti, Dominica, the Dominican Republic, East Timor, Ecuador, Egypt, El Salvador, Equitorial Guinea, Eritrea, Estonia, Ethiopia, Fiji, Finland, France, French Guiana, Gabon, Gambia, Georgia, Germany, Ghana, Gibraltar, Greece, Grenada, Guadeloupe, Guatemala, Guinea, Guinea-Bissau, Guyana, Haiti, Honduras, Hong Kong, Hungary, Iceland, India, Ireland, Israel, Italy, the Ivory Coast, Jamaica, Jordan, Kazakhstan, Kenya, Kiribati, Kyrgyzstan, Laos, Latvia, Lebanon, Lesotho, Liberia, Liechtenstein, Lithuania, Luxembourg, Macedonia, Madagascar, Malawi, Malaysia, the Maldives, Mali, Malta, the Marshall Islands, Martinique, Mauritania, Mauritius, Mexico, Micronesia, Monaco, Mongolia, Montenegro, Morocco, Mozambique, Namibia, Nauru, Nepal, the Nether Antilles, the Netherlands, New Zealand, Nicaragua, Niger, Nigeria, Norway, Oman, Pakistan, Palau, Panama, Papua New Guinea, Paraguay, the People's Republic of China, Peru, the Philippines, Poland, Portugal, the Republic of Moldova, Romania, Russia, Rwanda, Samoa, San Marino, Sao Tome and Principe, Saudi Arabia, Senegal, Serbia and Montenegro, the Seychelles, Sierra Leone, Singapore, Slovakia, Slovenia, the Solomon Islands, Somalia, South Africa, South Korea, Spain, Sri Lanka, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Suriname, Swaziland, Sweden, Switzerland, Taiwan, Tajikistan, Tanzania, Togo, Tonga, Trinidad and Tobago, Tunisia, Turkey, Turkmenistan, Tuvalu, Uganda, Ukraine, the United Arab Emirates, the United Kingdom, Uruguay, Uzbekistan, Vanuatu, Venezuela, Vietnam, Yemen, Zaire, Zambia, and Zimbabwe (for models 1.0 and 1.1 only)	582562-002
	Realtek RTL8191SE 802.11b/g/n 1x1 WiFi Adapter (for models 1.0, 1.1 and 1.2 only)	593533-001
	Ralink RT3090BC4 802.11b/g/n 1x1 WiFi and Bluetooth 2.1+EDR Combo Adapter (BT3.0+HS ready) (for models 1.2 and 1.3 only)	602992-001
	Intel Centrino Advanced -N + WiMAX 6250 (for model 1.3 only)	619997-001
	Broadcom 4313 802.11b/g/n 1x1 WiFi and 2070 Bluetooth 2.1+EDR Combo adapter (BT3.0+HS ready) (for models 1.2 and 1.3 only)	600370-001
	WLAN 1x1 HMC (for model 1.3 only)	630703-001
15	**Optical drive** (includes optical drive bezel and bracket)	
	DVD±RW and CD-RW SuperMulti Double-Layer Combo Drive with LightScribe for use with:	
	Biscotti computer models	599062-001
	Matte black computer models (for models 1.1, 1.2 and 1.3 only)	600651-001
	Silver computer models (for model 1.1 only)	608112-001
	Charcoal computer models (for models 1.2 and 1.3 only)	615588-001
	Imperial blue computer models (for models 1.2 and 1.3 only)	622565-001
	Blu-ray ROM with LightScribe DVD±R/RW SuperMulti Double-Layer Drive for use with:	
	Biscotti computer models	599063-001
	Matte black computer models (for models 1.1, 1.2 and 1.3 only)	600652-001
	Silver computer models (for model 1.1 only)	608114-001
	Charcoal computer models (for models 1.2 and 1.3 only)	615589-001
	Imperial blue computer models (for models 1.2 and 1.3 only)	622566-001
16	**Battery**	
	6-cell Li-Ion, 2.20 Ah, 47 Wh	593553-001

Continued

Item	Description	Spare part number
	6-cell Li-Ion, 2.55 Ah, 55 Wh	593554-001
17	**Power connector** (includes cable)	602743-001
18	**USB board**	595205-001
19	**RJ-11 connector** included in Cable Kit (see “Cable Kit” on page 14 for spare part component information)	595201-001
20	**Bluetooth® module** (for models 1.0 and 1.1 only)	537921-001
	Bluetooth cable (for models 1.0 and 1.1 only)	602538-001
21	**Base enclosure**	
	With HDMI card reader for biscotti computer models	617019-001
	Without card reader for biscotti computer models	617020-001
	With HDMI card reader for matte black computer models (for models 1.1 and 1.2 only)	617021-001
	Without card reader for matte black computer models (for models 1.0, 1.1 and 1.2 only)	617022-001
	With HDMI card reader for silver computer models (for model 1.1 only)	617023-001
	With HDMI card reader for charcoal computer models (for models 1.2 and 1.3 only)	615591-001
	With HDMI card reader for imperial blue computer models (for models 1.2 and 1.3 only)	622568-001
	Rubber Kit (not illustrated, includes four rubber feet)	600849-001
	Plastics Kit (see “Plastics Kit” on page 12 for spare part component information)	595200-001
22	**Hard drive cover**	
23	**Memory module cover**	

Display assembly components



Item	Description	Spare part number
1	**Display bezel**	
	Presario CQ62 with webcam and microphone modules	595190-001
	Presario CQ62 with microphone module only	595189-001
	HP G62 with webcam and microphone modules	595193-001
	HP G62 with microphone module only	595192-001
	HP G62 CCFL with webcam and microphone modules (for model 1.1 only)	616460-001
2	**Display hinges**	595195-001
3	**High Definition display panel** (includes display panel and backlight cables)	595130-001
	High definition CCFL display panel (includes display panel and backlight cables) (for model 1.1 only)	616450-001
4	**Webcam board**	600166-001
	LCD cable kit	595196-001
5	Wireless antenna (includes wireless antenna transceivers and cable)	
	Webcam cable	
	LCD cable	
6	**Display enclosure** (includes logo) for use with:	
	HP G62 biscotti computer models	595191-001
	Presario CQ62 biscotti computer models	602172-001
	Presario CQ62 matte black computer models	595194-001
	HP G62 silver computer models (for model 1.1 only)	605145-001
	HP G62 matte black computer models (for model 1.1 only)	608111-001
	HP G62 CCFL biscotti computer models (for model 1.1 only)	616461-001
	HP G62 charcoal computer models (for models 1.2 and 1.3 only)	615585-001
	HP G62 imperial blue computer models (for models 1.2 and 1.3 only)	622564-001
7	**Display hinge covers**	600650-001
	Display Rubber Kit (not illustrated, includes display bezel rubber screw covers)	595198-001
	Display Screw Kit (not illustrated)	595197-001

Plastics Kit

Item	Description	Spare part number
	Plastics Kit:	595200-001
1	Hard drive cover	
2	Wireless module compartment cover	

Mass storage devices

Item	Description	Spare part number
1	**Hard drive** (includes connector and bracket)	
	750 GB, 5400 rpm (for models 1.2 and 1.3 only)	603787-001
	640 GB, 5400 rpm (for models 1.1, 1.2 and 1.3 only)	603785-001
	500 GB, 7200 rpm	634919-001
	320 GB, 7200 rpm	599055-001
	250 GB, 7200 rpm	599054-001
	160 GB, 7200 rpm (for models 1.0, 1.1 and 1.2 only)	599053-001
	Hard Drive Hardware Kit (not illustrated, includes bracket and screws)	599057-001
2	**Optical drive** (includes bezel and bracket)	
	DVD±RW and CD-RW SuperMulti Double-Layer Combo Drive with LightScribe for use with:	
	Biscotti computer models	599062-001
	Matte black computer models (for models 1.1, 1.2 and 1.3 only)	600651-001
	Silver computer models (for model 1.1 only)	608112-001
	Charcoal computer models (for models 1.2 and 1.3 only)	615588-001
	Imperial blue computer models (for models 1.2 and 1.3 only)	622565-001
	Blu-ray ROM with LightScribe DVD±R/RW SuperMulti Double-Layer Drive for use with:	
	Biscotti computer models	599063-001
	Matte black computer models (for models 1.1 and 1.2 only)	600652-001
	Silver computer models (for model 1.1 only)	608114-001
	Charcoal computer models (for model 1.2 only)	615589-001
	Imperial blue computer models (for model 1.2 only)	622566-001

Miscellaneous parts

Description	Spare part number
AC adapter:	
65-W AC adapter	613152-001
90-W AC adapter	613153-001
90-WAC adapter	613160-001
65-WAC adapter	613161-001
Cable Kit Hard drive connector cable Optical drive connector cable Power button cable RJ-11 cable TouchPad button board cable TouchPad cable USB cable	595201-001
Power cord (for use with both HP G62 and Presario CQ 62 computer models) for use in:	
Argentina (for models 1.0, 1.1 and 1.2 only)	490371-D01
Australia	490371-011
Brazil (for models 1.1 and 1.2 only)	490371-202
Denmark	490371-081
Europe	490371-021
India	490371-D61
Israel	490371-BB1
Italy	490371-061
Japan	490371-291
Korea	490371-AD1
North America	430971-001
the People's Republic of China	490371-AA1
South Africa	490371-AR1
Switzerland	490371-111
Taiwan	490371-AB1
Thailand	490371-201
the United Kingdom and Singapore	490371-031
Screw Kit Phillips PM2.0x3.0 screw Phillips PM2.5x3.0 screw Phillips PM2.5x4.0 screw Phillips PM2.5x5.0 screw Phillips PM2.5x6.5 screw	595202-001

Sequential part number listing

Spare part number	Description number
490371-001	Power cord for use in North America with both HP G62 and Presario CQ62 computer models
490371-011	Power cord for use in Australia with both HP G62 and Presario CQ62 computer models
490371-021	Power cord for use in Europe with both HP G62 and Presario CQ62 computer models
490371-031	Power cord for use in the United Kingdom and Singapore with both HP G62 and Presario CQ62 computer models
490371-061	Power cord for use in Italy with both HP G62 and Presario CQ62 computer models
490371-081	Power cord for use in Denmark with both HP G62 and Presario CQ62 computer models
490371-111	Power cord for use in Switzerland with both HP G62 and Presario CQ62 computer models
490371-201	Power cord for use in Thailand with both G62 and HP G62 and Presario CQ62 computer models
490371-202	Power cord for use in Brazil with both G62 and HP G62 and Presario CQ62 computer models (for models 1.1 and 1.2 only)
490371-291	Power cord for use in Japan with both G62 andHP G62 and Presario CQ62 computer models
490371-AA1	Power cord for use in the People's Republic of China with both HP G62 and Presario CQ62 computer models
490371-AB1	Power cord for use in Taiwan with both HP G62 and Presario CQ62 computer models
490371-AD1	Power cord for use in Korea with both HP G62 and Presario CQ62 computer models
490371-AR1	Power cord for use in South Africa with both HP G62 and Presario CQ62 computer models
490371-BB1	Power cord for use in Israel with both HP G62 and Presario CQ62 computer models
490371-D01	Power cord for use in Argentina with both HP G62 and Presario CQ62 computer models (for models 1.0, 1.1 and 1.2 only)
490371-D61	Power cord for use in India with both HP G62 and Presario CQ62 computer models
510100-001	56K V.92 data/fax modem (select models only, for use in all countries and regions except for Australia and New Zealand) (for models 1.0 and 1.1 only)
510100-011	56K V.92 data/fax modem (select models only, for use in Australia and New Zealand) (for models 1.0 and 1.1 only)
534419-001	Intel Celeron 900 Processor (3M cache, 2.2 GHz) (for models 1.1 and 1.2 only)
537921-001	Bluetooth module (for models 1.0 and 1.1 only)
572925-001	Intel Penryn T3100 Processor (3M cache, 1.9 GHz) (for model 1.1 only)
572929-001	Intel Penryn T4300 Processor (3M cache, 2.1 GHz) (for model 1.1 only)
580101-001	Atheros AR9285 802.11 a/b/g/n 2x2 WiFi adapter for use in Canada, the Cayman Islands, Guam, Puerto Rico, the United States, and the US Virgin Islands

(Continued)

Spare part number	Description number
580101-002	Atheros AR9285 802.11 a/b/g/n 2x2 WiFi adapter for use in Afghanistan, Albania, Algeria, Andorra, Angola, Antigua and Barbuda, Argentian, Armenia, Australia, Austria, Azerbaijan, Bahamas, Bahrain, Barbados, Belgium, Belize, Benin, Bhutan, Bosnia and Herzegovina, Botswana, Brazil, Brunei, Bulgeria, Burkina Faso, Burundi, Cambodia, Cameroon, Cape Verde, Central African Republic, Chad, Chile, China, Colombia, Comoros, Congo, Costa Rica, Croatia, Cyprus, Czech Republic, Zaire, Denmark, Djibouti, Dominica, Dominican Republic, Ecuador, Egypt, El Salvador, Equitorial Guinea, Eritrea, Estonia, Ethiopia, Fiji, Finland, France, Gabon, Gambia, Georgia, Germany, Ghana, Gibraltar, Greece, Grenada, Guatemala, Guinea, Guinea-Bissa, Guyana, Haiti, Honduras, Hong Kong, Hungary, Iceland, India, Indonesia, Ireland, Italy, Ivory Coast, Jamaica, Japan, Jordan, Kazakhstan, Kenya, Kiribati, Korea-South, Kuwait, Kyrgyzstan, Laos, Latvia, Lebanon, Lesotho, Liberia, Martinique, Nether Antilles, French Guiana, Aruba, British Virgin Islands, Bermuda, Syria, Guadeloupe, Liechtenstein, Lithuania, Luxembourg, Macedonia, Madagaascar, Malawi, Malaysia, Maldives, Mali, Malta, Marshall Islands, Mauritania, Mauritius, Mexico, Micronesia, Monaco, Mongolia, Montenegro, Morocco, Mozambique, Namibia, Nauru, Nepal, Netherlands, New Zealand, Nicaragua, Niger, Nigeria, Norway, Oman, Palau, Panama, Papua New Guinea, Paraguay, Peru, Philippines, Poland, Portugal, Republic of Moldova, Romania, rwanda, Samoa, San Marino, Sao tome and Principe, Saudi Arabia, Senegal, Serbia and Montenegro, Seychelles, Sierra Leone, Singapore, Slovakia, Slovenia, Solomon Islands, Somalia, South Africa, Spain, Sri Lanka, St. Kitts and Nevis, St. Lucia, St. Vincent and Gren, Suriname, Swaziland, Sweden, Switzerland, Taiwan, Tajikistan, Tanzania, Thailand, Timor (East), Togo, Tonga, Trinidad and Tobago, Tunisia, Turkey, Turkmenistan, Tuvalu, Uganda, United Arab Emirates ,United Kingdom, Uruguay, Uzbekistan, Vanuatu, Venezuela, Vietnam, Yemen, Zambia, and Zimbabwe
582562-001	Broadcom 4312G 802.11 b/g WiFi adapter for use in Canada, the Cayman Islands, Guam, Puerto Rico, the U.S. Virgin Islands, and the United States (for models 1.0 and 1.1 only)
582562-002	Broadcom 4312G 802.11 b/g WiFi adapter for use in Afghanistan, Albania, Algeria, Andorra, Angola, Antigua and Barbuda, Argentina, Armenia, Aruba, Australia, Austria, Azerbaijan, the Bahamas, Bahrain, Bangladesh, Barbados, Belarus, Belgium, Belize, Benin, Bermuda, Bhutan, Bolivia, Bosnia and Herzegovina, Botswana, Brazil, the British Virgin Islands, Brunei, Bulgaria, Burkina Faso, Burundi, Cameroon, Cape Verde, the Central African Republic, Chad, Chile, Colombia, Comoros, the Congo, Costa Rica, Croatia, Cyprus, the Czech Republic, Denmark, Djibouti, Dominica, the Dominican Republic, East Timor, Ecuador, Egypt, El Salvador, Equitorial Guinea, Eritrea, Estonia, Ethiopia, Fiji, Finland, France, French Guiana, Gabon, Gambia, Georgia, Germany, Ghana, Gibraltar, Greece, Grenada, Guadeloupe, Guatemala, Guinea, Guinea-Bissau, Guyana, Haiti, Honduras, Hong Kong, Hungary, Iceland, India, Ireland, Israel, Italy, the Ivory Coast, Jamaica, Jordan, Kazakhstan, Kenya, Kiribati, Kyrgyzstan, Laos, Latvia, Lebanon, Lesotho, Liberia, Liechtenstein, Lithuania, Luxembourg, Macedonia, Madagascar, Malawi, Malaysia, the Maldives, Mali, Malta, the Marshall Islands, Martinique, Mauritania, Mauritius, Mexico, Micronesia, Monaco, Mongolia, Montenegro, Morocco, Mozambique, Namibia, Nauru, Nepal, the Nether Antilles, the Netherlands, New Zealand, Nicaragua, Niger, Nigeria, Norway, Oman, Pakistan, Palau, Panama, Papua New Guinea, Paraguay, the People's Republic of China, Peru, the Philippines, Poland, Portugal, the Republic of Moldova, Romania, Russia, Rwanda, Samoa, San Marino, Sao Tome and Principe, Saudi Arabia, Senegal, Serbia and Montenegro, the Seychelles, Sierra Leone, Singapore, Slovakia, Slovenia, the Solomon Islands, Somalia, South Africa, South Korea, Spain, Sri Lanka, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Suriname, Swaziland, Sweden, Switzerland, Taiwan, Tajikistan, Tanzania, Togo, Tonga, Trinidad and Tobago, Tunisia, Turkey, Turkmenistan, Tuvalu, Uganda, Ukraine, the United Arab Emirates, the United Kingdom, Uruguay, Uzbekistan, Vanuatu, Venezuela, Vietnam, Yemen, Zaire, Zambia, and Zimbabwe (for models 1.0 and 1.1 only)
584296-001	Intel Penryn T4400 Processor (3M cache, 2.2 GHz) (for models 1.1 and 1.2 only)
587259-001	Intel Core i7-620M Processor (4M cache, 2.66 GHz, SC turbo up to 3.33 GHz) (for model 1.0 only)
591880-001	Intel Penryn T4500 Processor (3M cache, 2.3 GHz) (for model 1.1 only)
592399-001	Intel Penryn T3300 Processor (3M cache, 2.0 GHz) (for models 1.1 and 1.2 only)

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Spare part number	Description number
593530-001	Intel WiFi Link 5100 802.11/b/g/n WLAN module for use in Afghanistan, Albania, Algeria, Andorra, Angola, Antigua and Barbuda, Argentina, Armenia, Aruba, Australia, Austria, Azerbaijan, the Bahamas, Bahrain, Bangladesh, Barbados, Belarus, Belgium, Belize, Benin, Bermuda, Bhutan, Bolivia, Bosnia and Herzegovina, Botswana, Brazil, the British Virgin Islands, Brunei, Bulgaria, Burkina Faso, Burundi, Cameroon, Canada, Cape Verde, the Cayman Islands, the Central African Republic, Chad, Chile, Colombia, Comoros, the Congo, Costa Rica, Croatia, Cyprus, the Czech Republic, Denmark, Djibouti, Dominica, the Dominican Republic, East Timor, Ecuador, Egypt, El Salvador, Equitorial Guinea, Eritrea, Estonia, Ethiopia, Fiji, Finland, France, French Guiana, Gabon, Gambia, Georgia, Germany, Ghana, Gibraltar, Greece, Grenada, Guadeloupe, Guatemala, Guam, Guinea, Guinea-Bissau, Guyana, Haiti, Honduras, Hong Kong, Hungary, Iceland, India, Ireland, Israel, Italy, the Ivory Coast, Jamaica, Jordan, Kazakhstan, Kenya, Kiribati, Kyrgyzstan, Laos, Latvia, Lebanon, Lesotho, Liberia, Liechtenstein, Lithuania, Luxembourg, Macedonia, Madagascar, Malawi, Malaysia, the Maldives, Mali, Malta, the Marshall Islands, Martinique, Mauritania, Mauritius, Mexico, Micronesia, Monaco, Mongolia, Montenegro, Morocco, Mozambique, Namibia, Nauru, Nepal, the Nether Antilles, the Netherlands, New Zealand, Nicaragua, Niger, Nigeria, Norway, Oman, Palau, Panama, Papua New Guinea, Paraguay, the People's Republic of China, Peru, the Philippines, Poland, Portugal, Puerto Rico, the Republic of Moldova, Romania, Rwanda, Samoa, San Marino, Sao Tome and Principe, Saudi Arabia, Senegal, Serbia and Montenegro, the Seychelles, Sierra Leone, Singapore, Slovakia, Slovenia, the Solomon Islands, Somalia, South Africa, South Korea, Spain, Sri Lanka, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Suriname, Swaziland, Sweden, Switzerland, Taiwan, Tajikistan, Tanzania, Togo, Tonga, Trinidad and Tobago, Tunisia, Turkey, Turkmenistan, Tuvalu, Uganda, the United Arab Emirates, the United Kingdom, Uruguay, the U.S. Virgin Islands, the United States, Uzbekistan, Vanuatu, Venezuela, Vietnam, Yemen, Zaire, Zambia, and Zimbabwe
593531-001	Intel WiFi Link 5100 802.11/b/g WLAN module for use in Pakistan, Russia, and Ukraine (for model 1.0 only)
593533-001	Realtek RTL8191SE 802.11b/g/n 1x1 WiFi Adapter (for models 1.0, 1.1 and 1.2 only)
593553-001	Battery, 6-cell, 2.20 Ah, 47 Wh
593554-001	Battery, 6-cell, 2.55 Ah, 55 Wh
594187-001	Intel Core i5-520M Processor (3M cache, 2.4 GHz, SC turbo up to 2.93 GHz) (for models 1.0, 1.1 and 1.2 only)
594188-001	Intel Core i5-540M Processor (3M cache, 2.53 GHz, SC turbo up to 3.06 GHz) (for models 1.0, 1.1 and 1.2 only)
595130-001	High Definition display panel (includes display panel and backlight cables)
595181-001	HM55 Discrete system board (for models 1.0 and 1.1 only)
595182-001	HM55 UMA system board
595183-001	HM55 HDMI Discrete system board (for models 1.0 and 1.1 only)
595184-001	HM55 HDMI UMA system board
595185-001	**39.6-cm** (15.6-in) HD, light-emitting diode display assembly for HP G62 biscotti computer models
595186-001	**39.6-cm** (15.6-in) HD, light-emitting diode display assembly for HP G62 biscotti computer models with webcam
595187-001	**39.6-cm** (15.6-in) HD, light-emitting diode display assembly for Presario CQ62 matte black computer models
595188-001	**39.6-cm** (15.6-in) HD, light-emitting diode display assembly for Presario CQ62 matte black computer models with webcam
595189-001	Display bezel for use with Presario CQ62 with microphone module only
595190-001	Display bezel for use with Presario CQ62 with webcam and microphone modules
595191-001	Display enclosure for use with HP G62 biscotti computer models
595192-001	Display bezel for use with HP G62 with microphone module only

Continued

Spare part number	Description number
595193-001	Display bezel for use with HP G62 with webcam and microphone modules
595194-001	Display enclosure for use with Presario CQ62 matte black computer models
595195-001	Display hinge kit (includes left and right display hinges)
595196-001	Wireless antenna kit (includes wireless antenna transceivers and cable)
595197-001	Display screw kit
595198-001	Display rubber kit
595199-001	Keyboard for use in North America (includes keyboard cable)
595199-031	Keyboard for use in the United Kingdom (includes keyboard cable)
595199-041	Keyboard for use in Germany (includes keyboard cable)
595199-051	Keyboard for use in France (includes keyboard cable)
595199-061	Keyboard for use in Italy (includes keyboard cable)
595199-071	Keyboard for use in Spain (includes keyboard cable)
595199-121	Keyboard for use in Canada (includes keyboard cable)
595199-131	Keyboard for use in Portugal (includes keyboard cable)
595199-141	Keyboard for use in Turkey (includes keyboard cable)
595199-161	Keyboard for use in Latin America (includes keyboard cable) (for model 1.1 only)
595199-171	Keyboard for use in Saudi Arabia s (includes keyboard cable)
595199-201	Keyboard for use in Brazil (includes keyboard cable) (for model 1.1 only)
595199-211	Keyboard for use in Hungary (includes keyboard cable)
595199-221	Keyboard for use in the Czech Republic (includes keyboard cable)
595199-251	Keyboard for use in Russia (includes keyboard cable)
595199-281	Keyboard for use in Thailand (includes keyboard cable)
595199-291	Keyboard for use in Japan (includes keyboard cable)
595199-A41	Keyboard for use in Belgium (includes keyboard cable)
595199-AB1	Keyboard for use in Taiwan (includes keyboard cable)
595199-AD1	Keyboard for use in Korea (includes keyboard cable)
595199-B31	Keyboard for international use (includes keyboard cable)
595199-BA1	Keyboard fo use in Adriatics (includes keyboard cable)
595199-BB1	Keyboard for use in Israel (includes keyboard cable)
595199-BG1	Keyboard for use in Switzerland (includes keyboard cable)
595199-DH1	Keyboard for use in Norway (includes keyboard cable)
595199-DJ1	Keyboard for use in Greece (includes keyboard cable)
595200-001	Plastics kit
595201-001	Cable kit
595202-001	Screw kit
595203-001	Touchpad button board
595204-001	Power button board
595205-001	USB board

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Spare part number	Description number
595206-001	Top cover (includes TouchPad board) for use in biscotti computer models
595207-001	Top cover (includes TouchPad board) for use in matte black computer models (for models 1.0 and 1.1 only)
595832-001	Fan/heat sink assembly for use with UMA systems (includes replacement thermal material)
595833-001	Fan/heat sink assembly for use with discrete systems (includes replacement thermal material)
597622-001	Intel Core i3-330M Processor (3M cache, 2.13 GHz) (for model 1.0 only)
597623-001	Intel Core i3-350M Processor (3M cache, 2.26 GHz) (for models 1.0, 1.1 and 1.2 only)
597624-001	Intel Core i5-430M Processor (3M cache, 2.26 GHz, SC turbo up to 2.53 GHz) (for models 1.0, 1.1 and 1.2 only)
598856-001	2 GB memory module (1066 MHz, DDR3)
598859-001	1 GB memory module (1066 MHz, DDR3)
599053-001	160 GB, 7200 rpm hard drive (for models 1.0, 1.2 and 1.3 only)
599054-001	250 GB, 7200 rpm hard drive
599055-001	320 GB, 7200 rpm hard drive
599057-001	Hard Drive Hardware Kit (includes bracket and screws)
599062-001	DVD±RW and CD-RW SuperMulti Double-Layer Combo Drive with LightScribe for use with biscotti computer models
599063-001	Blu-ray ROM with LightScribe DVD±R/RW SuperMulti Double-Layer Drive for use with biscotti computer models
599092-001	4 GB memory module (1066 MHz, DDR3) (for models 1.2 and 1.3 only)
600166-001	Webcam module
600370-001	Broadcom 4313 802.11b/g/n 1x1 WiFi and 2070 Bluetooth 2.1+EDR Combo adapter (BT3.0+HS ready) (for models 1.2 and 1.3 only)
600650-001	Display hinge covers
600651-001	DVD±RW and CD-RW SuperMulti Double-Layer Combo Drive with LightScribe for use with matte black computer models (for models 1.0, 1.1 and 1.2 only)
600652-001	Blu-ray ROM with LightScribe DVD±R/RW SuperMulti Double-Layer Drive for use with matte black computer models (for models 1.0 1.1 and 1.3 only)
600849-001	Rubber kit (ncludes four rubber feet)
602170-001	**39.6-cm** (15.6-in) HD, light-emitting diode display assembly for Presario CQ62 biscotti computer models
602171-001	**39.6-cm** (15.6-in) HD, light-emitting diode display assembly for Presario CQ62 biscotti computer models with webcam
602172-001	Display enclosure for use with Presario CQ62 biscotti computer models
602538-001	Bluetooth module cable (for models 1.0 and 1.1 only)
602743-001	Power connector (includes cable)
602744-001	Speaker assembly (includes cable)
602745-001	RTC battery
602992-001	Ralink RT3090BC4 802.11b/g/n 1x1 WiFi and Bluetooth 2.1+EDR Combo Adapter (BT3.0+HS ready) (for models 1.2 and 1.3 only)
603785-001	640 GB, 5400 rpm hard drive (for models 1.1, 1.2 and 1.3 only)
603787-001	750 GB, 5400 rpm hard drive (for models 1.2 and 1.3 only)

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Spare part number	Description number
605139-001	GL40 UMA system board (for models 1.1 and 1.2 only)
605140-001	HD5470/512 MB discrete system board (for models 1.1 and 1.2 only)
605141-001	**39.6-cm** (15.6-in) HD, light-emitting diode display assembly for HP G62 silver computer models (for model 1.1 only)
605142-001	**39.6-cm** (15.6-in) HD, light-emitting diode display assembly for HP G62 silver computer models with webcam (for model 1.1 only)
605145-001	Display enclosure for use with HP G62 silver computer models (for model 1.1 only)
605147-001	Top cover (includes TouchPad board) for use in silver computer models (for model 1.1 only)
606573-001	Fan/heat sink assembly for use with UMA GL40 systems (includes replacement thermal material) (for models 1.1 and 1.2 only)
608109-001	**39.6-cm** (15.6-in) HD, light-emitting diode display assembly for HP G62 matte black computer models (for model 1.1 only)
608110-001	**39.6-cm** (15.6-in) HD, light-emitting diode display assembly for HP G62 matte black computer models with webcam (for model 1.1 only)
608111-001	Display enclosure for use with HP G62 matte black computer models (for model 1.1 only)
608112-001	DVD±RW and CD-RW SuperMulti Double-Layer Combo Drive with LightScribe for use with silver computer models (for model 1.1 only)
608114-001	Blu-ray ROM with LightScribe DVD±R/RW SuperMulti Double-Layer Drive for use with silver computer models (for model 1.1 only)
613152-001	65-W AC adapter
613153-001	90-W AC adapter
613160-001	90-WAC adapter
613161-001	65-WAC adapter
613584-001	Intel Core i3-370M Processor (3M cache, 2.4 GHz, SC turbo up to 2.53 GHz) (for models 1.1, 1.2 and 1.3 only)
613585-001	Intel Core i5-450M Processor (3M cache, 2.4 GHz, SC turbo up to 2.53 GHz) (for models 1.1, 1.2 and 1.3 only)
613586-001	Pentium Arrandale P6000 Processor (3M cache, 1.86 GHz) (for models 1.1 and 1.2 only)
613587-001	Pentium Arrandale P6100 Processor (3M cache, 2.0 GHz) (for models 1.2 and 1.3 only)
615577-001	HM55 HD545V discrete system board (for model 1.1 only)
615578-001	HM55 HD545V discrete system board with HDMI card reader (for model 1.1 only)
615579-001	HD5470/512 MB discrete system board (for model 1.2 only)
615580-001	HD5470/512 MB discrete system board with HDMI card reader (for model 1.2 only)
615581-001	HD5470/1 G discrete system board (for model 1.2 only)
615582-001	HD5470/1 G discrete system board with HDMI card reader (for model 1.2 only)
615583-001	**39.6-cm** (15.6-in) HD, light-emitting diode display assembly for HP G62 charcoal computer models (for models 1.2 and 1.3 only)
615584-001	**39.6-cm** (15.6-in) HD, light-emitting diode display assembly for HP G62 charcoal computer models with webcam (for modesl 1.2 and 1.3 only)
615585-001	Display enclosure for use with HP G62 charcoal computer models (for models 1.2 and 1.3 only)
615588-001	DVD±RW and CD-RW SuperMulti Double-Layer Combo Drive with LightScribe for use with charcoal computer models (for models 1.2 and 1.3 only)

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Spare part number	Description number
615589-001	Blu-ray ROM with LightScribe DVD±R/RW SuperMulti Double-Layer Drive for use with charcoal computer models (for models 1.2 and 1.3 only)
615590-001	Top cover (includes TouchPad board) for use in charcoal computer models (for modesl 1.2 and 1.3 only)
615591-001	Base enclosure with HDMI card reader for charcoal computer models (for models 1.2 and 1.3 only)
616448-001	GL40 DDR2 UMA system board (for model 1.1 only)
616449-001	GL40 DDR2 UMA system board with HDMI card reader (for model 1.1 only)
616450-001	High Definition CCFL display panel (includes display panel and backlight cables) (for model 1.1 only)
616452-001	**39.6-cm** (15.6-in) HD, light-emitting diode CCFL display assembly for HP G62 biscotti computer models with webcam (for model 1.1 only)
616460-001	CCFL Display bezel for use with HP G62 with microphone and webcam modules (for model 1.1 only)
616461-001	CCFL Display enclosure for use with HP G62 biscotti computer models (for model 1.1 only)
616465-001	CCFL Display hinge kit (includes left and right display hinges) (for model 1.1 only)
616466-001	CCFL Display cable kit (for model 1.1 only)
616467-001	Inverter (for model 1.1 only)
617019-001	Base enclosure with HDMI card reader for biscotti computer models
617020-001	Base enclosure for biscotti computer models
617021-001	Base enclosure with HDMI card reader for matte black computer models (for models 1.1 and 1.2 only)
617022-001	Base enclosure for matte black computer models (for models 1.0, 1.1 and 1.2 only)
617023-001	Base enclosure with HDMI card reader for silver computer models (for model 1.1 only)
617024-001	Fan/heat sink assembly for use with HD545V discrete systems (includes replacement thermal material) (for model 1.1 only)
619545-001	1 GB memory module (6400 MHz, DDR2) (for model 1.1 only)
619546-001	2 GB memory module (6400 MHz, DDR2) (for model 1.1 only)
619997-001	Intel Centrino Advanced -N + WiMAX 6250 (for model 1.3 only)
622562-001	**39.6-cm** (15.6-in) HD, light-emitting diode display assembly for HP G62 imperial blue computer models (for models 1.2 and 1.3 only)
622563-001	**39.6-cm** (15.6-in) HD, light-emitting diode display assembly for HP G62 imperial blue computer models with webcam (for models 1.2 and 1.3 only)
622564-001	Display enclosure for use with HP G62 imperial blue computer models (for models 1.2 and 1.3 only)
622565-001	DVD±RW and CD-RW SuperMulti Double-Layer Combo Drive with LightScribe for use with imperial blue computer models (for models 1.2 and 1.3 only)
622566-001	Blu-ray ROM with LightScribe DVD±R/RW SuperMulti Double-Layer Drive for use with imperial blue computer models (for models 1.2 and 1.3 only)
622567-001	Top cover (includes TouchPad board) for use in imperial blue computer models (for models 1.2 and 1.3 only)
622568-001	Base enclosure with HDMI card reader for imperial blue computer models (for models 1.2 and 1.3 only)
625823-001	Intel Core i3-380M Processor (3M cache, 2.53 GHz, SC turbo up to 2.53 GHz) (for models 1.2 and 1.3 only)
625824-001	Intel Core i5-560M Processor (3M cache, 2.66-3.2 GHz, SC turbo up to 2.53 GHz) (for models 1.2 and 1.3 only)

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Spare part number	Description number
625825-001	Intel Core i5-580M Processor (3M cache, 2.66-3.33 GHz, SC turbo up to 2.53 GHz) (for models 1.2 and 1.3 only)
625830-001	Intel Penryn T3500 Processor (3M cache, 2.1 GHz) (for model 1.2 only)
625831-001	Intel Pentium P6200 Processor (3M cache, 2.13 GHz) (for models 1.2 and 1.3 only)
626039-001	Intel Core i5-460M Processor (3M cache, 2.53 GHz, SC turbo up to 2.53 GHz) (for models 1.2 and 1.3 only)
628482-001	HM55 WiMax UMA system board with HDMI card reader (for model 1.3 only)
630703-001	WLAN 1x1 HMC (for model 1.3 only)
631593-001	HD6370/512 MB discrete system board (for model 1.3 only)
631594-001	HD6370/1 GB discrete system board (for model 1.3 only)
631595-001	HD6370/512 MB discrete system board with HDMI card reader (for model 1.3 only)
631596-001	HD6370/1 GB discrete system board with HDMI card reader (for model 1.3 only)
634428-001	Thermal pad kit for processor
634433-001	Thermal pad kit for South Bridge chipset
634648-001	i3-350M UMA system board (for model 1.3 only)
634649-001	HD6370/512 MB i3-350M discrete system board (for model 1.3 only)
634650-001	Thermal module for discrete systems (for model 1.3 only)
634651-001	Thermal module for UMA (for model 1.3 only)
634692-001	Intel Processor I3-390M 2.66GHz (for model 1.3 only)
634693-001	Intel 15-480MProcessor 2.3GHz (for model 1.3 only)
634919-001	500 GB, 7200 rpm hard drive
635500-001	Intel Pentium P6300 Processor (3M cache 2.26 GHz) (for model 1.3 only)
636636-001	Intel Celeron 925 Processor 2.3GHz (for model 1.3 only)
637583-001	i3-370M UMA system board (for model 1.3 only)
637584-001	HD6370/512 MB i3-370M (for model 1.3 only)

4

Removal and replacement procedures

Preliminary replacement requirements

Tools required

Use the following tools to complete the removal and replacement procedures:

- Flat-bladed screwdriver
- Magnetic screwdriver
- Phillips P0 and P1 screwdrivers

Service considerations

Before disassembly or assembly procedures, review and adhere to all service considerations.

As you remove each subassembly from the computer, place the subassembly (and all accompanying screws) away from the work area to prevent damage.

Plastic parts

CAUTION: Using excessive force during disassembly and reassembly can damage plastic parts. Use care when handling the plastic parts. Apply pressure only at the points designated in the maintenance instructions.

Cables and connectors

CAUTION: When servicing the computer, be sure that cables are placed in their proper locations during the reassembly process. Improper cable placement can damage the computer.

Cables must be handled with extreme care to avoid damage. Apply only the tension required to unseat or seat the cables during removal and insertion. Handle cables by the connector whenever possible. In all cases, avoid bending, twisting, or tearing cables. Be sure that cables are routed in such a way that they cannot be caught or snagged by parts being removed or replaced. Handle flex cables with extreme care; these cables tear easily.

Drive handling

CAUTION: Drives are fragile components that must be handled with care. To prevent damage to the computer, damage to a drive, or loss of information, observe these precautions:

- Before removing or inserting a hard drive, shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
- Before handling a drive, be sure that you are discharged of static electricity. While handling a drive, avoid touching the connector.
- Before removing a diskette drive or optical drive, be sure that a diskette or disc is not in the drive and be sure that the optical drive tray is closed.
- Handle drives on surfaces covered with at least one inch of shock-proof foam.
- Avoid dropping drives from any height onto any surface.
- After removing a hard drive, an optical drive, or a diskette drive, place it in a static-proof bag.
- Avoid exposing a hard drive to products that have magnetic fields, such as monitors or speakers.
- Avoid exposing a drive to temperature extremes or liquids.
- If a drive must be mailed, place the drive in a bubble pack mailer or other suitable form of protective packaging and label the package "FRAGILE."

Grounding guidelines

Electrostatic discharge damage

Electronic components are sensitive to electrostatic discharge (ESD). Circuitry design and structure determine the degree of sensitivity. Networks built into many integrated circuits provide some protection, but in many cases, ESD contains enough power to alter device parameters or melt silicon junctions.

A discharge of static electricity from a finger or other conductor can destroy static-sensitive devices or microcircuitry. Even if the spark is neither felt nor heard, damage might have occurred.

An electronic device exposed to ESD might not be affected at all and can work perfectly throughout a normal cycle. Or the device might function normally for a while, then degrade in the internal layers, reducing its life expectancy.

CAUTION: To prevent damage to the computer when you are removing or installing internal components, observe these precautions:

- Keep components in their electrostatic-safe containers until you are ready to install them.
- Use nonmagnetic tools.
- Before touching an electronic component, discharge static electricity by using the guidelines described in this section.
- Avoid touching pins, leads, and circuitry. Handle electronic components as little as possible.
- If you remove a component, place it in an electrostatic-safe container.

The following table shows how humidity affects the electrostatic voltage levels generated by different activities.

CAUTION: A product can be degraded by as little as 700 V.

	Relative humidity		
Event	**10%**	**40%**	**55%**
Walking across carpet	35,000 V	15,000 V	7,500 V
Walking across vinyl floor	12,000 V	5,000 V	3,000 V
Motions of bench worker	6,000 V	800 V	400 V
Removing DIPS from plastic tube	2,000 V	700 V	400 V
Removing DIPS from vinyl tray	11,500 V	4,000 V	2,000 V
Removing DIPS from Styrofoam	14,500 V	5,000 V	3,500 V
Removing bubble pack from PCB	26,500 V	20,000 V	7,000 V
Packing PCBs in foam-lined box	21,000 V	11,000 V	5,000 V

Packaging and transporting guidelines

Follow these grounding guidelines when packaging and transporting equipment:

- To avoid hand contact, transport products in static-safe tubes, bags, or boxes.
- Protect ESD-sensitive parts and assemblies with conductive or approved containers or packaging.
- Keep ESD-sensitive parts in their containers until the parts arrive at static-free workstations.
- Place items on a grounded surface before removing items from their containers.
- Always be properly grounded when touching a component or assembly.
- Store reusable ESD-sensitive parts from assemblies in protective packaging or nonconductive foam.
- Use transporters and conveyors made of antistatic belts and roller bushings. Be sure that mechanized equipment used for moving materials is wired to ground and that proper materials are selected to avoid static charging. When grounding is not possible, use an ionizer to dissipate electric charges.

Workstation guidelines

Follow these grounding workstation guidelines:

- Cover the workstation with approved static-shielding material.
- Use a wrist strap connected to a properly grounded work surface and use properly grounded tools and equipment.
- Use conductive field service tools, such as cutters, screwdrivers, and vacuums.
- When fixtures must directly contact dissipative surfaces, use fixtures made only of static-safe materials.
- Keep the work area free of nonconductive materials, such as ordinary plastic assembly aids and Styrofoam.
- Handle ESD-sensitive components, parts, and assemblies by the case or PCM laminate. Handle these items only at static-free workstations.
- Avoid touching pins, leads, and circuitry. Handle electronic components as little as possible.
- Turn off power and input signals before inserting or removing connectors or test equipment.

Equipment guidelines

Grounding equipment must include either a wrist strap or a foot strap at a grounded workstation.

- When seated, wear a wrist strap connected to a grounded system. Wrist straps are flexible straps with a minimum of one megohm ±10% resistance in the ground cords. To provide proper ground, wear a strap snugly against the skin at all times. On grounded mats with banana-plug connectors, use alligator clips to connect a wrist strap.
- When standing, use foot straps and a grounded floor mat. Foot straps (heel, toe, or boot straps) can be used at standing workstations and are compatible with most types of shoes or boots. On conductive floors or dissipative floor mats, use foot straps on both feet with a minimum of one megohm resistance between the operator and ground. To be effective, the conductive strips must be worn in contact with the skin.

The following grounding equipment is recommended to prevent electrostatic damage:

- Antistatic tape
- Antistatic smocks, aprons, and sleeve protectors
- Conductive bins and other assembly or soldering aids
- Nonconductive foam
- Conductive tabletop workstations with ground cords of one megohm resistance
- Static-dissipative tables or floor mats with hard ties to the ground
- Field service kits
- Static awareness labels
- Material-handling packages
- Nonconductive plastic bags, tubes, or boxes
- Metal tote boxes
- Electrostatic voltage levels and protective materials

The following table lists the shielding protection provided by antistatic bags and floor mats.

Material	Use	Voltage protection level
Antistatic plastic	Bags	1,500 V
Carbon-loaded plastic	Floor mats	7,500 V
Metallized laminate	Floor mats	5,000 V

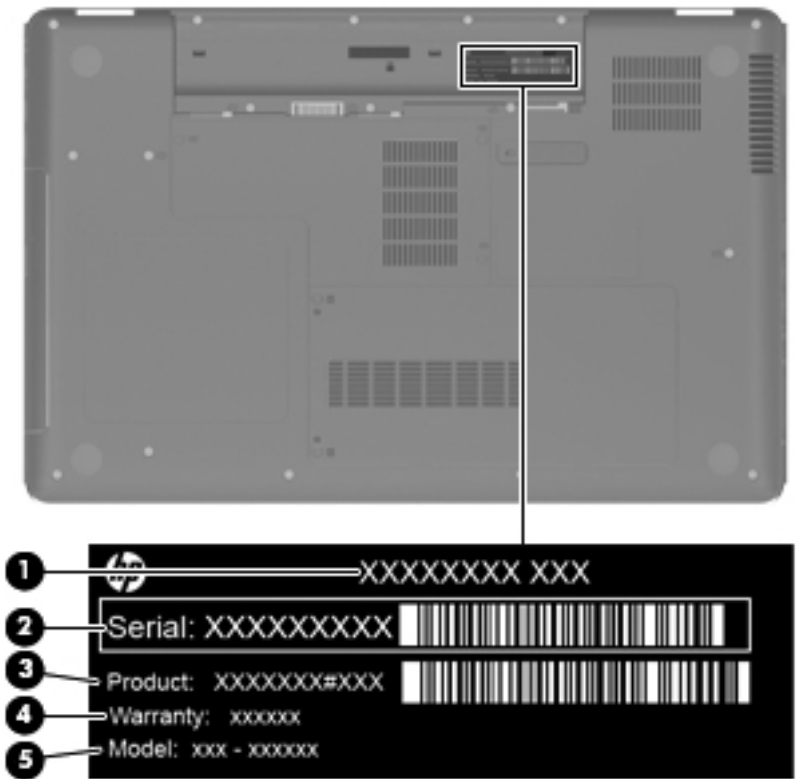
Component replacement procedures

This chapter provides removal and replacement procedures.

There are as many as 62 screws, in 5 different sizes, that must be removed, replaced, or loosened when servicing the computer. Make special note of each screw size and location during removal and replacement.

Service tag

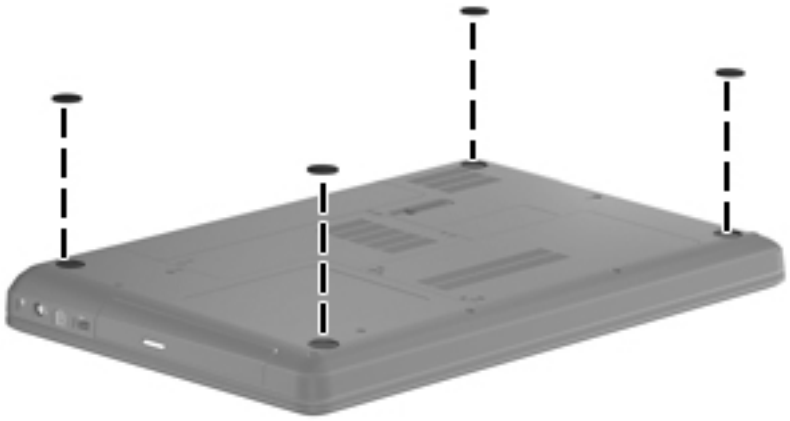
When ordering parts or requesting information, provide the computer serial number and model number located on the service tag.



Item	Component	Description
1	Product name	The name affixed to the front of the computer.
2	Serial number (s/n)	An alphanumeric identifier that is unique to each product.
3	Part number/Product number (p/n)	This number provides specific information about the product's hardware components. The part number helps a service technician to determine what components and parts are needed.
4	Warranty period	The duration of the warranty period for the computer.
5	Model description	An alphanumeric identifier used to locate documents, drivers, and support for the computer.

Computer feet

The computer feet are adhesive-backed rubber pads. The feet are included in the Rubber Kit, spare part number 595198-001. There are 4 rubber feet that attach to the base enclosure in the locations illustrated below.



Battery

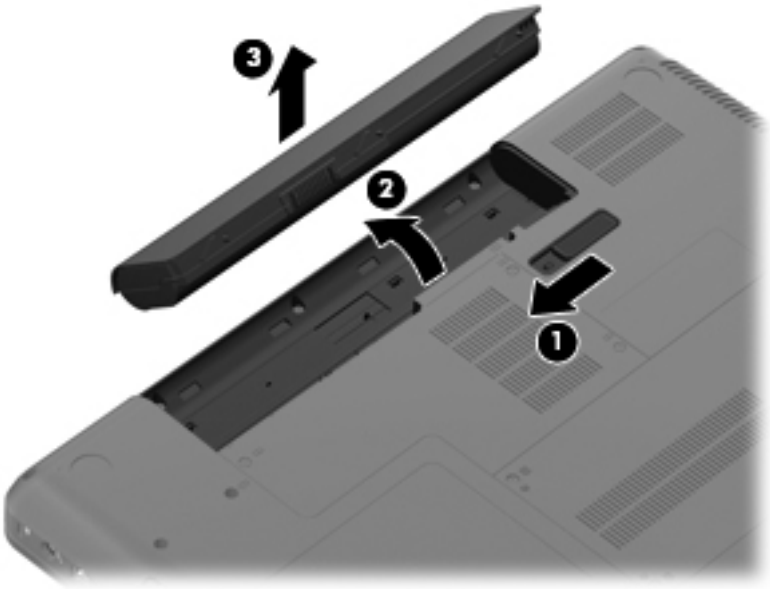
Description	Spare part number
6 cell, 2.20-Ah, 47-Wh battery	593553-001
6-cell Li-Ion, 2.55 Ah, 55 Wh	593554-001

Before disassembling the computer:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first disconnecting the power cord from the AC outlet and then disconnecting the AC adapter from the computer.

Remove the battery:

1. Turn the computer upside down on a flat surface, with the battery bay toward you.
2. Slide the battery release latch ❶ to release the battery.
3. Pivot the battery ❷ upward and remove it ❸ from the computer.



To insert the battery, insert the rear edge of the battery into the battery bay and pivot the front edge downward until the battery is seated. The battery release latch automatically locks the battery into place.

Hard drive

The hard drive spare part kit includes a hard drive bracket and hard drive connector. The hard drive bracket and hard drive connector, as well as the hard drive bracket screws, are also available in the Hard Drive Hardware Kit.

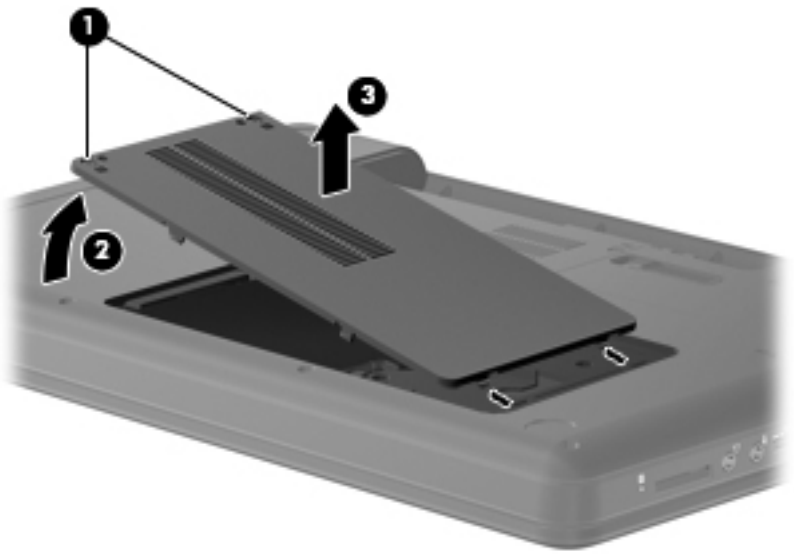
Description	Spare part number
750 GB, 5400 rpm (for models 1.2 and 1.3 only)	603787-001
640 GB, 5400 rpm (for models 1.1, 1.2 and 1.3 only)	603785-001
500 GB, 7200 rpm	634919-001
320 GB, 7200 rpm	599055-001
250 GB, 7200 rpm	599054-001
160 GB, 7200 rpm (for models 1.0, 1.1 and 1.2 only)	599053-001
Hard Drive Hardware Kit (not illustrated, includes connector, bracket, and screws)	599057-001

Before removing the hard drive:

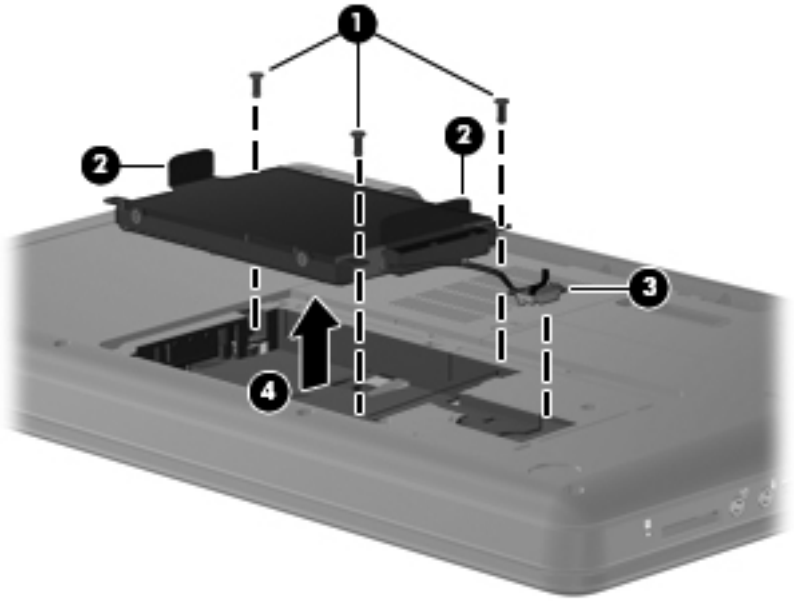
1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first disconnecting the power cord from the AC outlet and then disconnecting the AC adapter from the computer.
4. Remove the battery (see "Battery" on page 4-7).

Remove the hard drive:

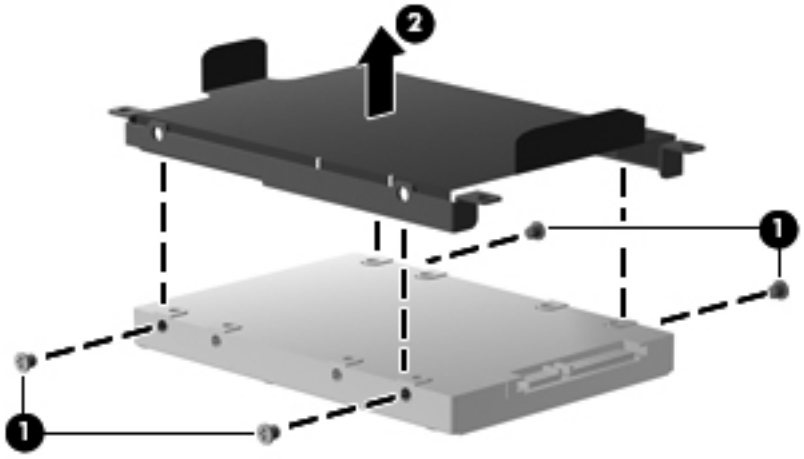
1. Loosen the two Phillips PM2.5×6.0 captive screws ❶ that secure the hard drive cover to the computer.
2. Lift the left side of the hard drive cover ❷, lift it up and to the left ❸, and remove the cover. The hard drive cover is included in the Plastics Kit, spare part number 595200-001.



3. Remove the three Phillips PM2.5×5.0 screws ❶ that secure the hard drive to the computer.
4. Grasp the Mylar tabs ❷ on the hard drive, and then slide the hard drive to the left to disconnect it from the system board.
5. Disconnect the hard drive cable from the system board ❸.
6. Remove the hard drive ❹ from the hard drive bay.



7. To replace the hard drive bracket, remove the four Phillips PM3.0×4.0 hard drive bracket screws ❶ from each side of the hard drive.
8. Grasp the 2 attached Mylar tabs ❷ and pull the bracket straight up to remove it from the hard drive.



Reverse this procedure to reassemble and install the hard drive.

Memory module

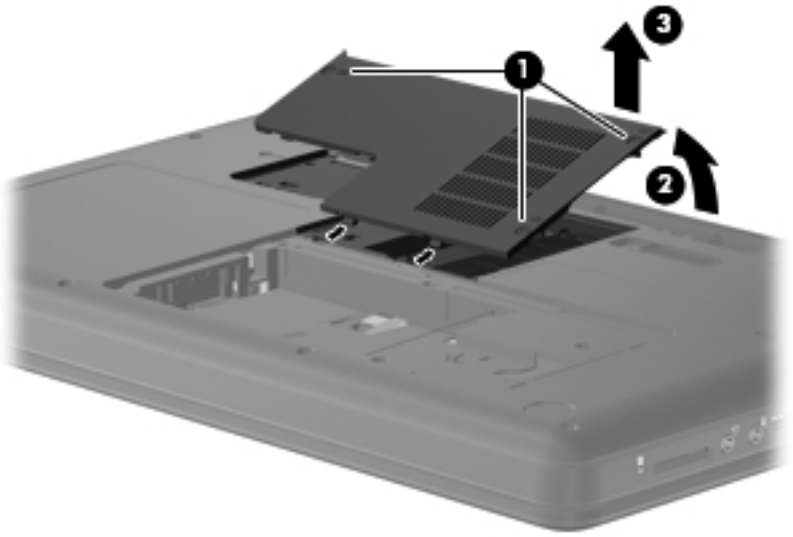
Description	Spare part number
Memory module, 1 GB, 1066 MHz DDR3	598859-001
Memory module, 2 GB, 1066 MHz DDR3	598856-001
Memory module, 4 GB 1066 MHz DDR3 (for models 1.2 and 1.3 only)	599092-001
Memory module, 1 GB 6400 MHz DDR2 (for model 1.1 only)	619545-001
Memory module, 2 GB 6400 MHz, DDR2 (for model 1.1 only)	619546-001

Before removing the memory module:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first disconnecting the power cord from the AC outlet and then disconnecting the AC adapter from the computer.
4. Remove the battery (see "Battery" on page 4-7).

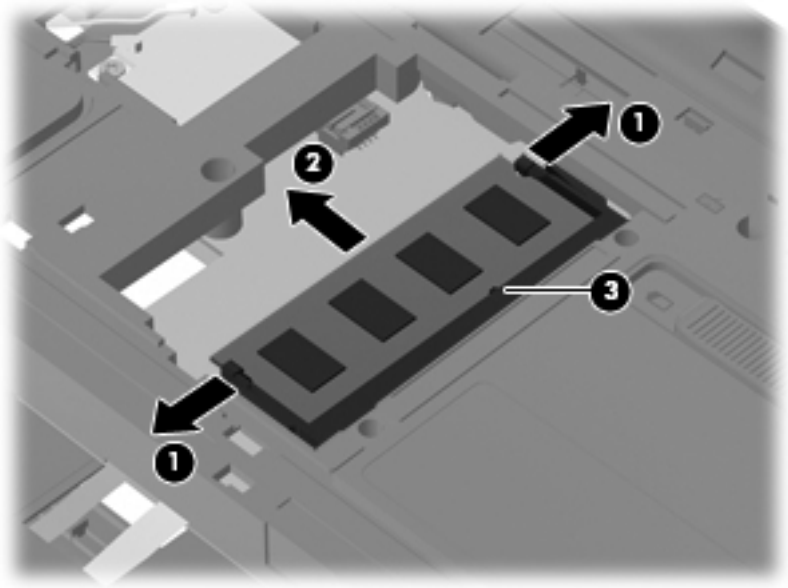
Remove the memory module:

1. Loosen the three Phillips PM2.5×6.0 captive screws ❶ that secure the memory module cover to the computer.
2. Lift the back side of the memory module cover cover ❷, lift it up ❸, and remove the cover. The memory module cover is included in the Plastics Kit, spare part number 595200-001.



3. Spread the retaining tabs ❶ away from the memory module. (The edge of the module opposite the slot rises away from the computer.)
4. Remove the memory module ❷ by pulling the module away from the slot at an angle.

Memory modules are designed with a notch ❸ to prevent incorrect insertion into the memory module slot.



Reverse this procedure to install a memory module.

Wireless module

Description	Spare part number
Atheros AR9285 802.11 a/b/g/n 2x2 WiFi adapter	580101-001
Atheros AR9285 802.11 a/b/g/n 2x2 WiFi adapter	580101-002
Intel WiFi Link 5100 802.11/b/g/n WLAN module	593530-001
Intel WiFi Link 5100 802.11/b/g WLAN module (for model 1.0 only)	593531-001
Broadcom 4312G 802.11 b/g WiFi adapter (for models 1.0 and 1.1 only)	582562-001
Broadcom 4312G 802.11 b/g WiFi adapter (for models 1.0 and 1.1 only)	582562-002
Realtek RTL8191SE 802.11b/g/n 1x1 WiFi Adapter (for models 1.0, 1.1 and 1.2 only)	593533-001
Ralink RT3090BC4 802.11b/g/n 1x1 WiFi and Bluetooth 2.1+EDR Combo Adapter (BT3.0+HS ready) (for models 1.2 and 1.3 only)	602992-001
Intel Centrino Advanced -N + WiMAX 6250 (for model 1.3 only)	619997-001
Broadcom 4313 802.11b/g/n 1x1 WiFi and 2070 Bluetooth 2.1+EDR Combo adapter (BT3.0+HS ready) (for models 1.2 and 1.3 only)	600370-001
5390 GN 802 11b/g/n 1x1 WiFi Adapater	630703-001

Before removing the WLAN module:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first disconnecting the power cord from the AC outlet and then disconnecting the AC adapter from the computer.
4. Remove the battery (see “Battery” on page 4-7).
5. Remove the memory module (see “Memory module” on page 4-10).

Remove the wireless module:

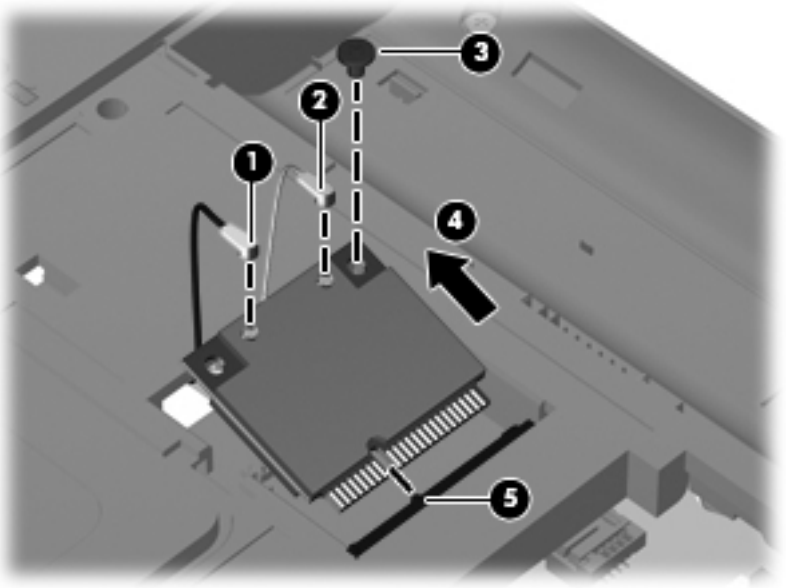
CAUTION: To prevent an unresponsive system, replace the wireless module only with a wireless module authorized for use in the computer by the governmental agency that regulates wireless devices in your country or region. If you replace the module and then receive a warning message, remove the module to restore computer functionality, and then contact technical support through Help and Support.

1. Disconnect the main antenna cable ❶ and the auxiliary antenna cable ❷ from the wireless module.

   ✎ The black WLAN antenna cable (marked "1") is connected to the WLAN module "Main" terminal. The white WLAN antenna cable (marked "2") is connected to the WLAN module "Aux" terminal.

2. Remove the Phillips PM2.0×3.0 screw ❸ that secures the WLAN module to the computer. (The edge of the module opposite the slot rises away from the computer.)
3. Remove the WLAN module ❹ by pulling the module away from the slot at an angle.

   ✎ WLAN modules are designed with a notch ❺ to prevent incorrect insertion.



Reverse this procedure to install the wireless module.

Optical drive

The optical drive spare part kit includes an optical drive bezel and optical drive bracket.

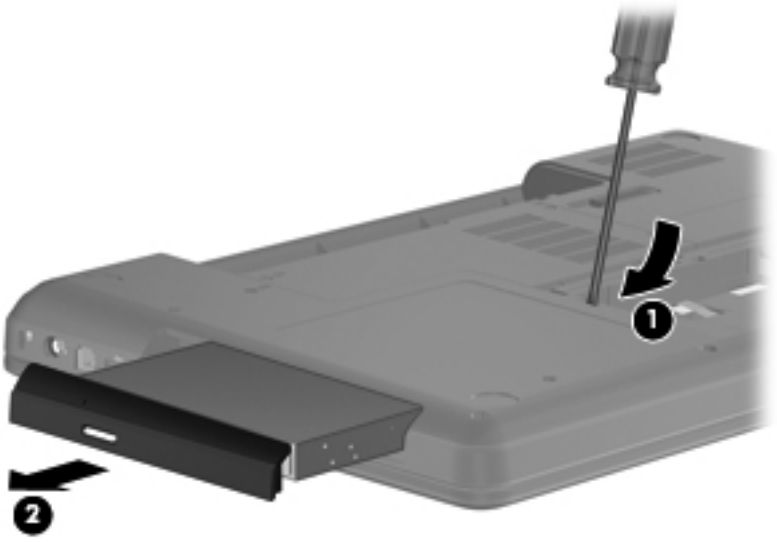
Description	Spare part number
DVD±RW and CD-RW SuperMulti Double-Layer Combo Drive with LightScribe for use with:	
Biscotti computer models	599062-001
Matte black computer models (for models 1.1, 1.2 and 1.3 only)	600651-001
Silver computer models (for model 1.1 only)	608112-001
Charcoal computer models (for models 1.2 and 1.3 only)	615588-001
Imperial blue computer models (for model 1.2 only)	622565-001
Blu-ray ROM with LightScribe DVD±R/RW SuperMulti Double-Layer Drive for use with:	
Biscotti computer models	599063-001
Matte black computer models (for models 1.1, 1.2 and 1.3 only)	600652-001
Silver computer models (for model 1.1 only)	608114-001
Charcoal computer models (for models 1.2 and 1.3 only)	615589-001
Imperial blue computer models (for models 1.2 and 1.3 only)	622566-001

Before removing the optical drive:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first disconnecting the power cord from the AC outlet and then disconnecting the AC adapter from the computer.
4. Remove the battery (see "Battery" on page 4-7).
5. Remove the hard drive (see "Hard drive" on page 4-8.)

Remove the optical drive:

1. Position the computer with the left side toward you.
2. Innsert a thin tool, such as a screw driver ❶, into the release access slot in the hard drive bay. (The disc tray is partially ejected from the optical drive.)
3. Grasp the bezel and slide the optical drive ❷ out of the computer.


1
2

4. To replace the optical drive bracket, position the optical drive with the rear toward you.
5. Remove the two Phillips PM2.0×3.0 screws ❶ that secure the optical drive bracket to the optical drive.
6. Remove the optical drive bracket ❷.

Reverse this procedure to reassemble and install an optical drive.

Keyboard

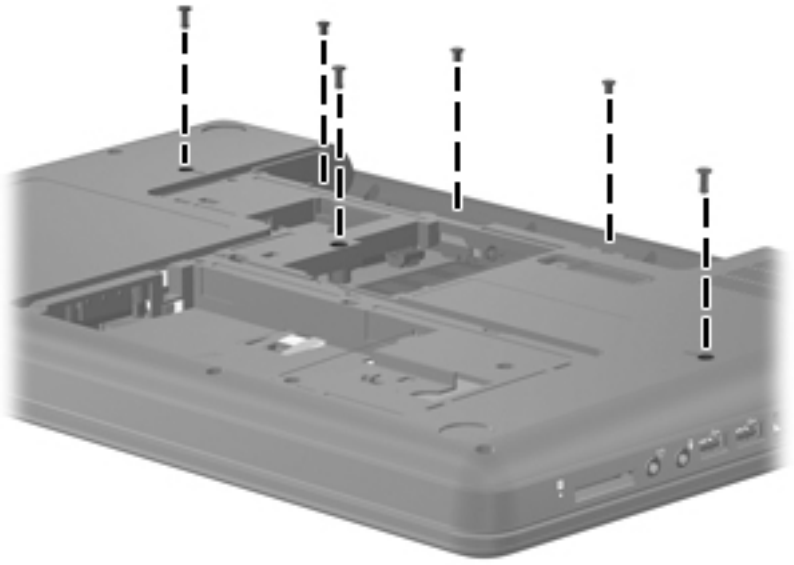
Description	Spare part number
For use in Adriatics	595199-BA1
For use in Belgium	595199-A41
For use in Brazil (for model 1.1 only)	595199-201
For use in Canada	595199-121
For use in the Czech Republic	595199-221
For use in France	595199-051
For use in Germany	595199-041
For use in Greece	595199-DJ1
For use in Hungary	595199-211
For International use	595199-B31
For use in Israel	595199-BB1
For use in Italy	595199-061
For use in Japan	595199-291
For use in Korea	595199-AD1
For use in Latin America (for models 1.1 only)	595199-161
For use in North America	595199-001
For use in Norway	595199-DH1
For use in Portugal	595199-131
For use in Russia	595199-251
For use in Saudi Arabia	595199-171
For use in Spain	595199-071
For use in Switzerland	595199-BG1
For use in Taiwan	595199-AB1
For use in Thailand	595199-281
For use in Turkey	595199-141
For use in the United Kingdom	595199-031

Before removing the keyboard:

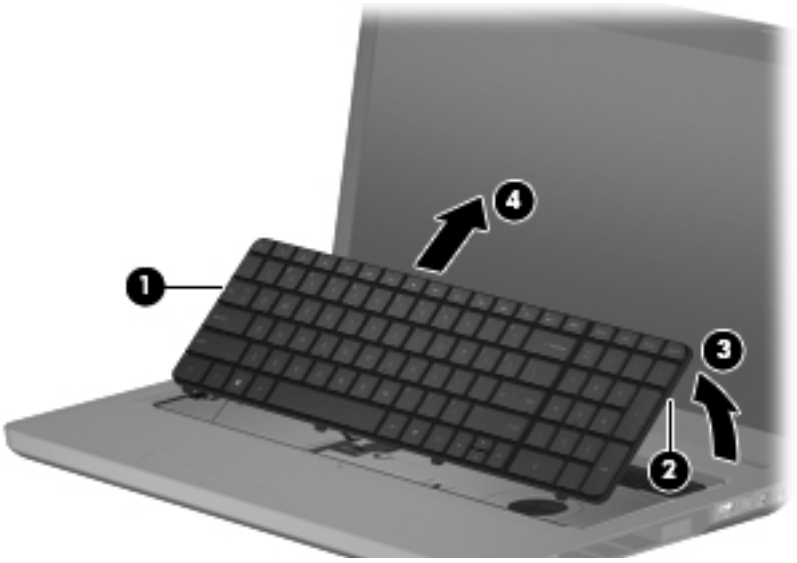
1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first disconnecting the power cord from the AC outlet and then disconnecting the AC adapter from the computer.
4. Remove the battery (see “Battery” on page 4-7).
5. Remove the hard drive (see “Hard drive” on page 4-8).
6. Remove the memory module (see “Memory module” on page 4-10).
7. Remove the wireless module (see “Wireless module” on page 4-12).
8. Remove the optical drive (see “Optical drive” on page 4-14).

Remove the keyboard:

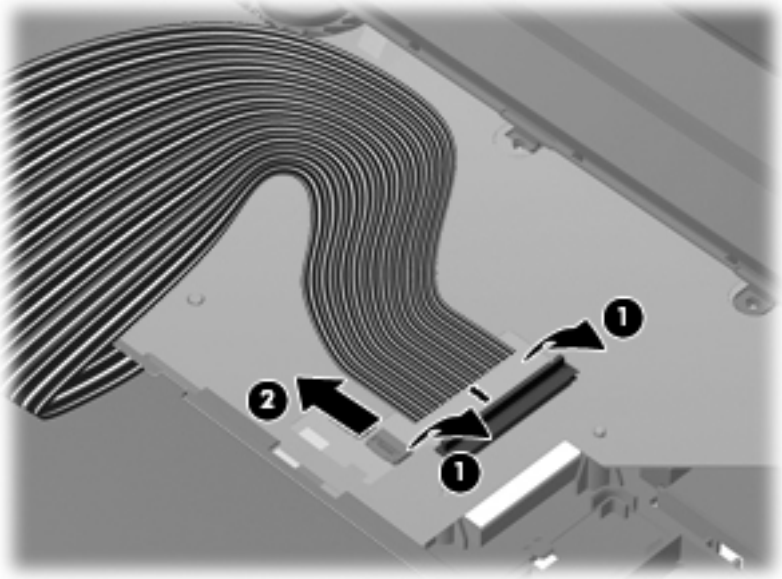
1. Turn the computer upside down, with the front toward you.
2. Remove the three Phillips PM2.5×5.0 and three Phillips PM2.5x6.5 screws that secure the keyboard to the computer.



3. Turn the computer right-side up, with the front toward you.
4. Open the computer as far as possible.
5. Release the tabs along the left ❶ and right ❷ edges of the keyboard using a thin flat-bladed screwdriver.
6. Lift the rear edge of the keyboard ❸, and set the keyboard back towards the display ❹.



7. Release the zero insertion force (ZIF) connector ❶ to which the keyboard cable is attached, and then disconnect the keyboard cable ❷ from the system board.



8. Remove the keyboard.

Reverse this procedure to install the keyboard.

Top cover

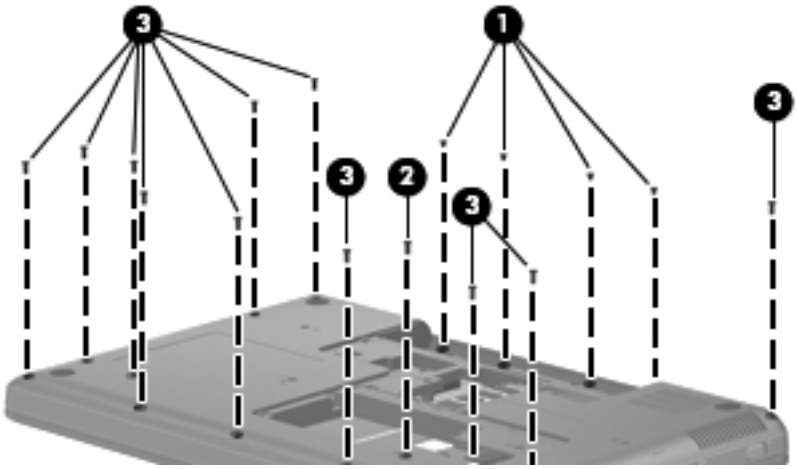
Description	Spare part number
For use with biscotti computer models	595206-001
For use with matte black computer models (for models 1.0 and 1.1 only)	595207-001
For use with charcoal computer models (for models 1.2 and 1.3 only)	615590-001
For use with silver computer models (for model 1.1 only)	605147-001
For use with imperial blue computer models (for models 1.2 and 1.3 only)	622567-001

Before removing the top cover:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first disconnecting the power cord from the AC outlet and then disconnecting the AC adapter from the computer.
4. Remove the battery (see "Battery" on page 4-7).
5. Remove the hard drive (see "Hard drive" on page 4-8).
6. Remove the memory module (see "Memory module" on page 4-10).
7. Remove the wireless module (see "Wireless module" on page 4-12).
8. Remove the optical drive (see "Optical drive" on page 4-14).
9. Remove the keyboard (see "Keyboard" on page 4-17).

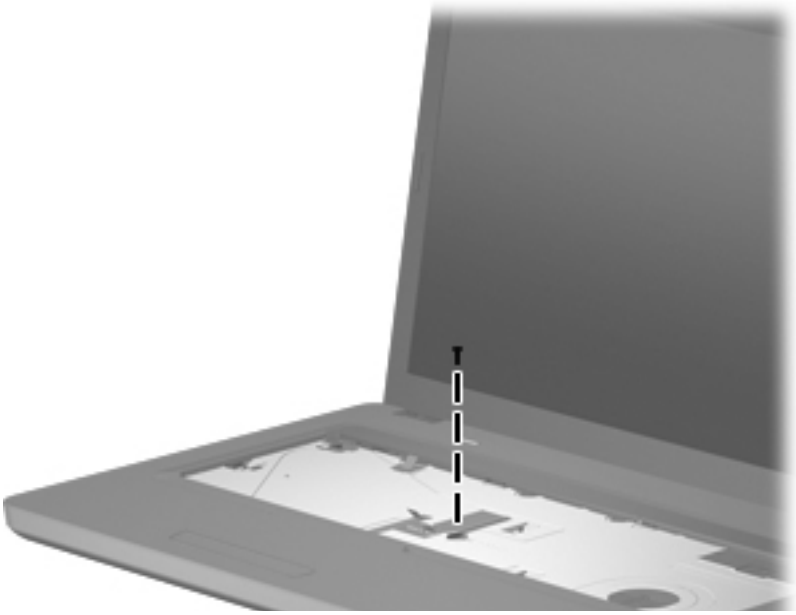
Remove the top cover:

1. Turn the computer upside down, with the front toward you.
2. Remove four Phillips PM2.5x3 screws in the battery bay, and remove ten Phillips PM2.5x6.5 screws on the base enclosure. The top cover screws are identified by a triangle icon embossed on the base enclosure.

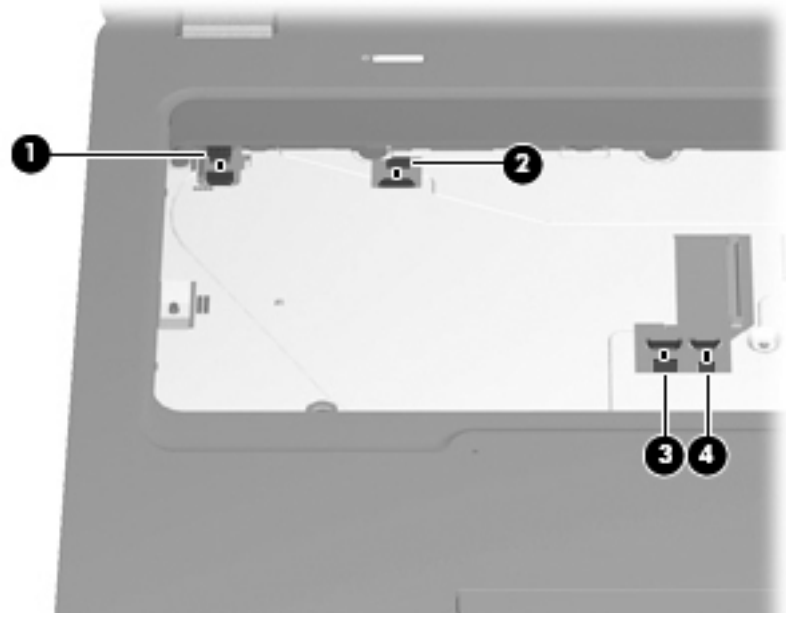


3. Turn the computer right-side up, with the front toward you.
4. Open the computer as far as possible.

5. Remove the Phillips PM2.5×6.0 screw that secures the switch cover to the computer.



6. Release the power button ZIF connector ❶, speaker cable ❷, touchpad ZIF connector ❸, and touchpad button ZIF connector ❹.



7. Lift the rear edge of the top cover ❶ until the top cover disengages from the base enclosure.
8. Remove the top cover ❷.

The TouchPad is glued to the top cover and is included with the top cover spare part.

Reverse this procedure to install the top cover.

Power button board

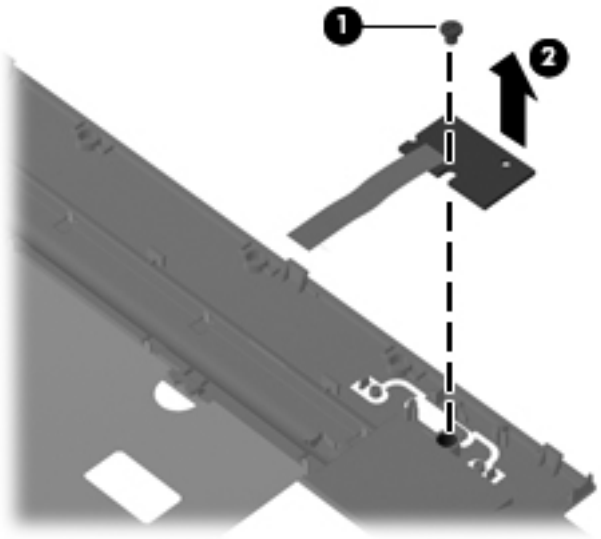
Description	Spare part number
Power button board	595204-001

Before removing the power button board:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first disconnecting the power cord from the AC outlet and then disconnecting the AC adapter from the computer.
4. Remove the battery (see "Battery" on page 4-7).
5. Remove the hard drive (see "Hard drive" on page 4-8).
6. Remove the memory module (see "Memory module" on page 4-10).
7. Remove the wireless module (see "Wireless module" on page 4-12).
8. Remove the optical drive (see "Optical drive" on page 4-14).
9. Remove the keyboard (see "Keyboard" on page 4-17).
10. Remove the top cover (see "Top cover" on page 4-20).

Remove the power button board:

1. Remove the Phillips PM2.0×3.0 screw ❶ that secures the power button board to the top cover.
2. Lift up and remove the power button board ❷.



Reverse this procedure to install the power button board.

Touchpad button board

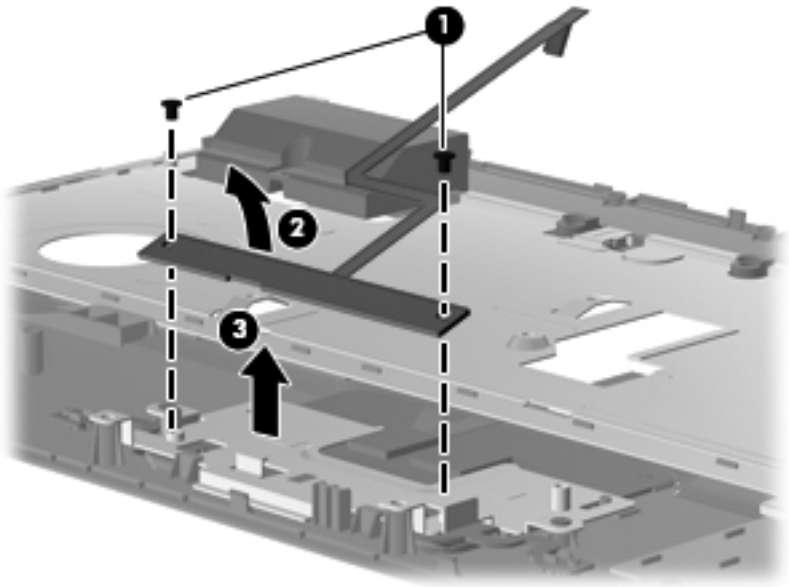
Description	Spare part number
Touchpad button board	595203-001

Before removing the touchpad button board:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first disconnecting the power cord from the AC outlet and then disconnecting the AC adapter from the computer.
4. Remove the battery (see "Battery" on page 4-7).
5. Remove the hard drive (see "Hard drive" on page 4-8).
6. Remove the memory module (see "Memory module" on page 4-10).
7. Remove the wireless module (see "Wireless module" on page 4-12).
8. Remove the optical drive (see "Optical drive" on page 4-14).
9. Remove the keyboard (see "Keyboard" on page 4-17).
10. Remove the top cover (see "Top cover" on page 4-20).

Remove the touchpad button board:

1. Remove the two Phillips PM2.0×3.0 screws ❶ that secure the touchpad button board to the top cover.
2. Lift up and remove the touchpad button board ❷.



Reverse this procedure to install the touchpad button board.

Speakers

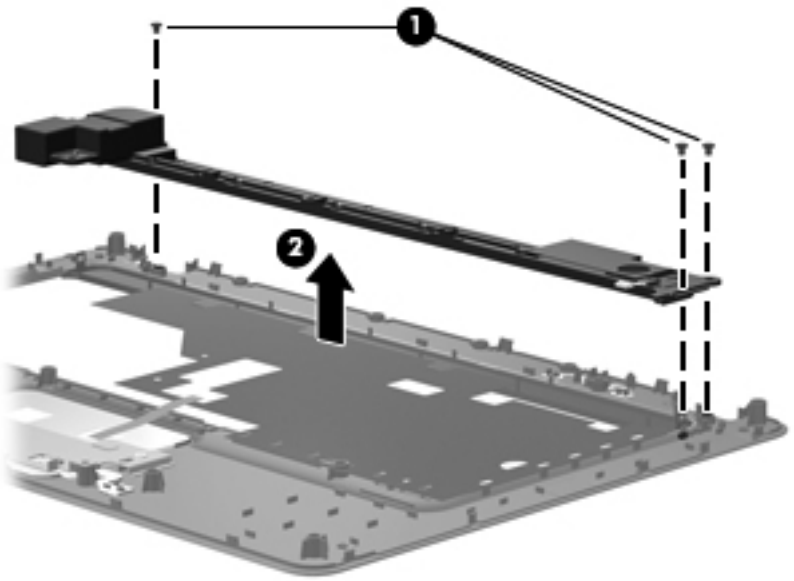
Description	Spare part number
Speaker assembly (includes cable)	602744-001

Before removing the speakers:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first disconnecting the power cord from the AC outlet and then disconnecting the AC adapter from the computer.
4. Remove the battery (see "Battery" on page 4-7).
5. Remove the hard drive (see "Hard drive" on page 4-8).
6. Remove the memory module (see "Memory module" on page 4-10).
7. Remove the wireless module (see "Wireless module" on page 4-12).
8. Remove the optical drive (see "Optical drive" on page 4-14).
9. Remove the keyboard (see "Keyboard" on page 4-17).
10. Remove the top cover (see "Top cover" on page 4-20).

Remove the speakers:

1. Remove the three Phillips PM2.5×3.0 screws ❶ that secure the speaker assembly to the top cover.
2. Lift up and remove the speakers ❷.



Reverse this procedure to install the speakers.

Display assembly

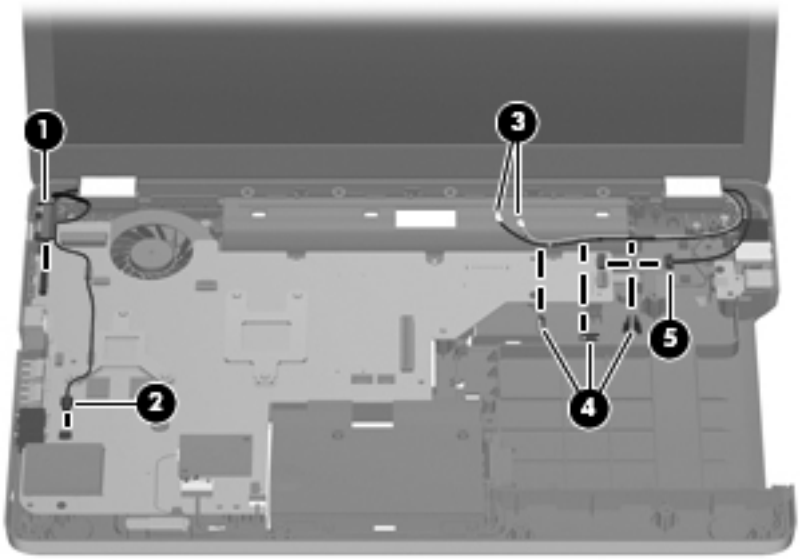
Description	Spare part number
39.6-cm (15.6-in) High Definition (HD), light-emitting diode (LED) display assembly for use in:	
HP G62 computer biscotti computer models	595185-001
HP G62 computer biscotti computer models with webcam	595186-001
Presario CQ62 biscotti computer models	602170-001
Presario CQ62 biscotti computer models with webcam	602171-001
Presario CQ62 matte black computer models	595187-001
Presario CQ62 matte black computer models with webcam	595188-001
HP G62 silver computer models (for model 1.1 only)	605141-001
HP G62 silver computer models with webcam (for model 1.1 only)	605142-001
HP G62 matte black computer models (for model 1.1 only)	608109-001
HP G62 matte black computer models with webcam (for model 1.1 only)	608110-001
HP biscotti computer model (for model 1.1 only)	616452-001
HP G62 charcoal computer models (for models 1.2 and 1.3 only)	615583-001
HP G62 charcoal computer models with webcam (for models 1.2 and 1.3 only)	615584-001
HP G62 imperial blue computer models (for models 1.2 and 1.3 only)	622562-001
HP G62 imperial blue computer models with webcam (for models 1.2 and 1.3 only)	622563-001

Before removing the display assembly:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system. +
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first disconnecting the power cord from the AC outlet and then disconnecting the AC adapter from the computer.
4. Remove the battery (see “Battery” on page 4-7).
5. Remove the hard drive (see “Hard drive” on page 4-8).
6. Remove the memory module (see “Memory module” on page 4-10).
7. Remove the wireless module (see “Wireless module” on page 4-12).
8. Remove the optical drive (see “Optical drive” on page 4-14).
9. Remove the keyboard (see “Keyboard” on page 4-17).
10. Remove the top cover (see “Top cover” on page 4-20).

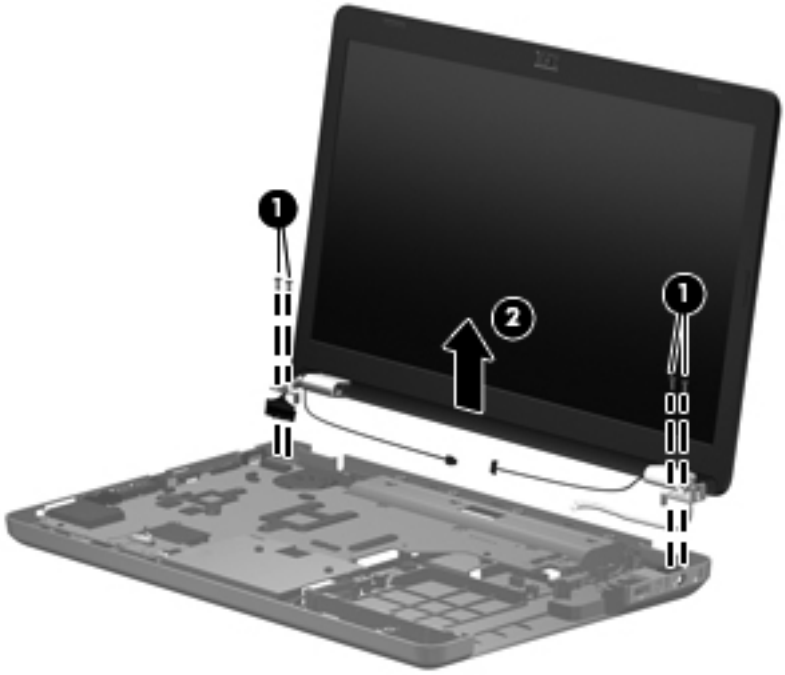
Remove the display assembly:

1. Disconnect the display panel cable ❶ and the microphone cable ❷ from the system board and remove it from its routing channel.
2. Pull the antenna cables through the opening in the top cover ❸ and disengage the cables from the clip in the routing channel leading to the display hinge ❹.
3. Disconnect the webcam cable ❺ from the system board and release it from the clips that attach it to the system board.



CAUTION: Support the display assembly when removing the following screws. Failure to support the display assembly can result in damage to the display assembly and other computer components.

4. Remove the four Phillips PM2.5×7.0 screws ❶ securing the display hinges to the computer.
5. Lift the display panel ❷ straight up to remove it.

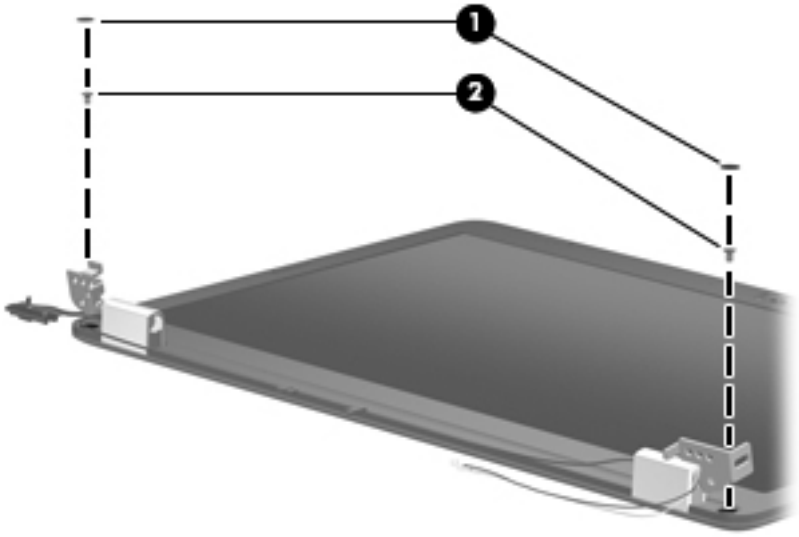


Reverse this procedure to install the display assembly.

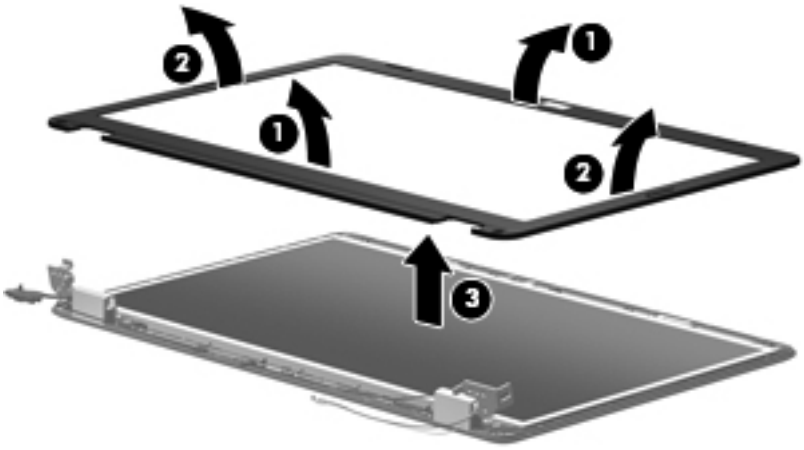
6. To replace the display bezel or any of the display assembly internal components, remove the following screw covers and screws:

   ❶ 2 mylar screw covers on the display bezel bottom edge. The display mylar screw covers are included in the Display Rubber Kit, spare part number 595198-001.

   ❷ Two Phillips PM2.5×7.0 screws on the display bezel bottom edge.

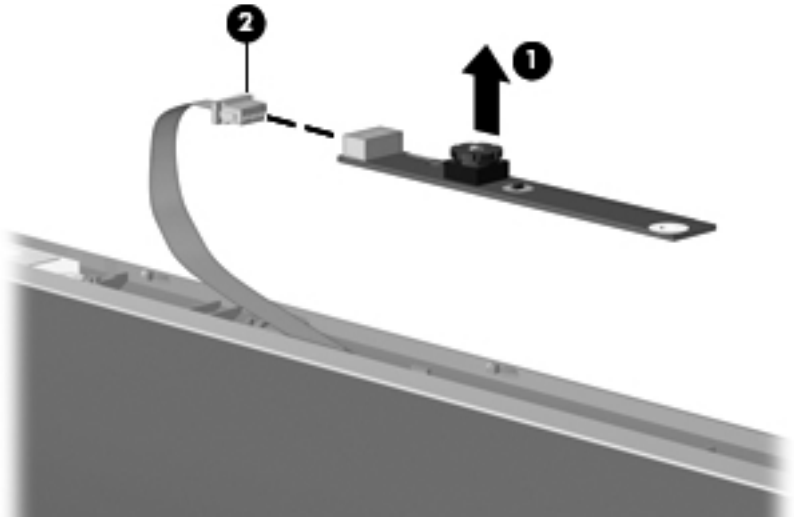


7. To remove the Display Bezel, flex the inside edges of the bezel at the top and bottom ❶, and the left and right sides ❷, until the bezel disengages from the display enclosure.
8. Remove the display bezel ❸.



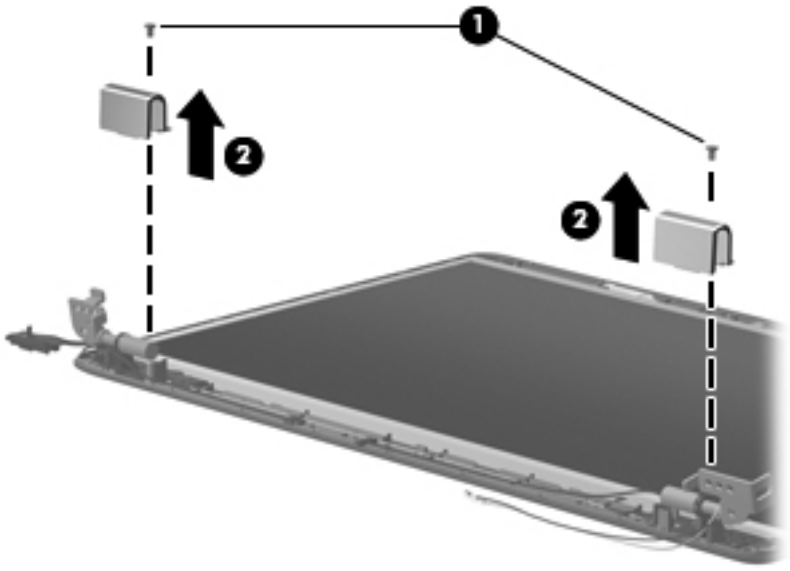
Reverse this procedure to install the display bezel.

9. To replace the webcam module (select models only), lift the webcam module as far from the display enclosure as the webcam module cable allows.
10. Disconnect the webcam module cable ❶ from the webcam module, and remove the webcam module ❷. The webcam module is available using spare part number 600166-001.



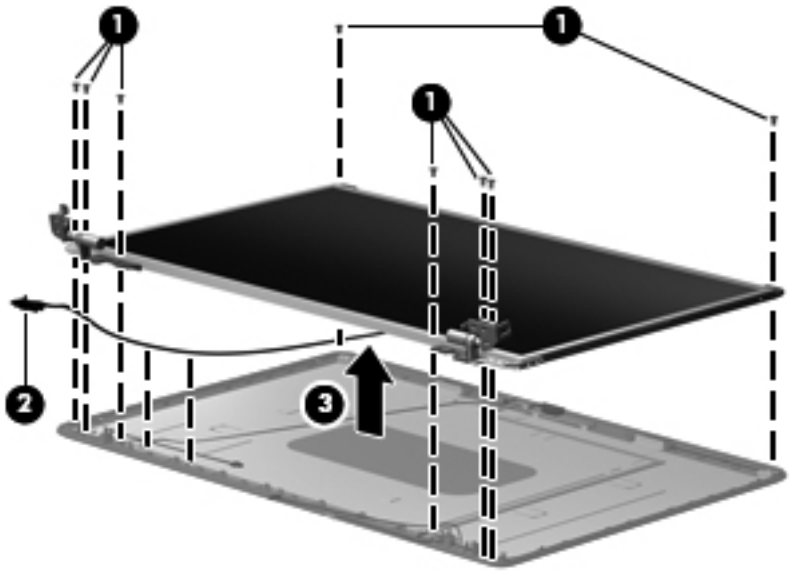
Reverse this procedure to install the webcam module.

11. To replace the display hinge covers, remove the two Phillips PM2.5×6.0 screws ❶ that secure each hinge to the display enclosure.
12. Remove the display hinge covers ❷. The display hinge covers are available using spare part number 600650-001.



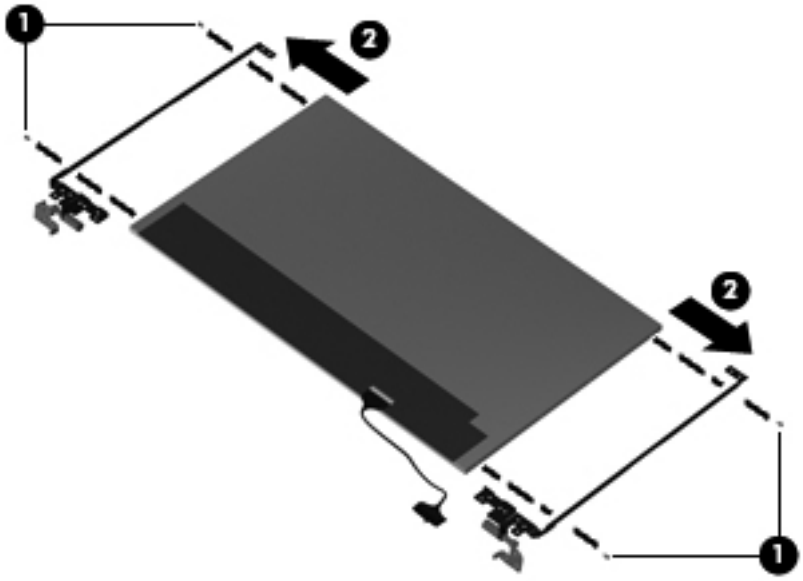
Reverse this procedure to install the display hinge covers.

13. To replace the display panel, remove eight phillips PM2.5×6.0 screws ❶ that secure the display panel to the display enclosure.
14. Remove the display panel ❷ from the display enclosure.



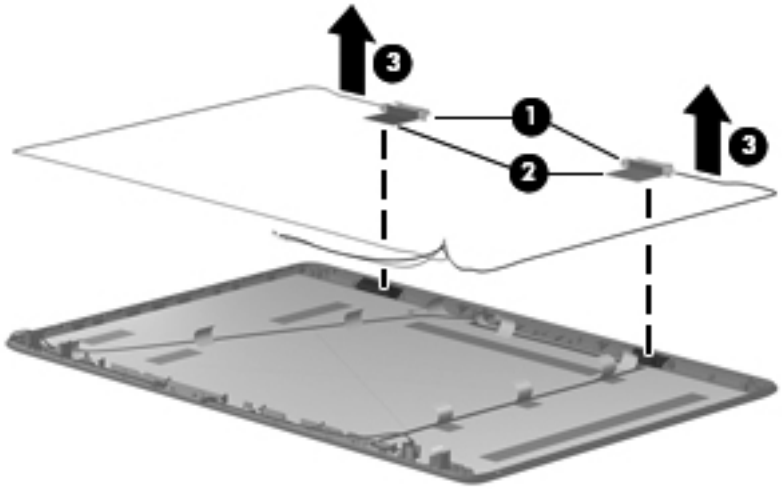
Reverse this procedure to install the display panel.

15. To replace the display panel brackets, remove the two Phillips PM2.0×3.0 screws ❶ that secure each bracket to the display panel.
16. Remove the display panel brackets ❷ from the display panel. The display panel brackets are available using spare part number 595195-001.



Reverse this procedure to install the display panel brackets.

17. To replace the wireless antenna transceivers, lift up on the silver transceiver ❶ and release the adhesive material from the display cover ❷.
18. Lift up to remove the antenna transceivers ❸. The wireless antenna transceivers with cable is available with the LCD cable kit using spare part number 595196-001.



Reverse this procedure to install the display wireless antenna transceivers.

USB board

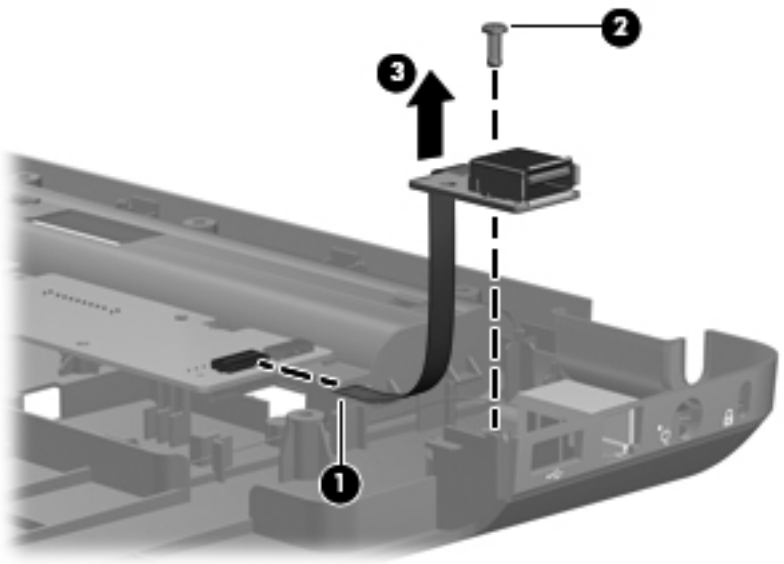
Description	Spare part number
USB board	595205-001

Before removing the USB board:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first disconnecting the power cord from the AC outlet and then disconnecting the AC adapter from the computer.
4. Remove the battery (see "Battery" on page 4-7).
5. Remove the hard drive (see "Hard drive" on page 4-8).
6. Remove the memory module (see "Memory module" on page 4-10).
7. Remove the wireless module (see "Wireless module" on page 4-12).
8. Remove the optical drive (see "Optical drive" on page 4-14).
9. Remove the keyboard (see "Keyboard" on page 4-17).
10. Remove the top cover (see "Top cover" on page 4-20).
11. Remove the display assembly (see "Display assembly" on page 4-26).

Remove the USB board:

1. Disconnect the USB board cable ❶ from the system board.
2. Remove the Phillips PM2.5×60 screw ❷ from the system board.
3. Lift the USB board ❸ straight up to remove it from the computer. The USB cable is available with the cable kit using spare part number 595201-001



Reverse this procedure to install a USB board.

Power connector

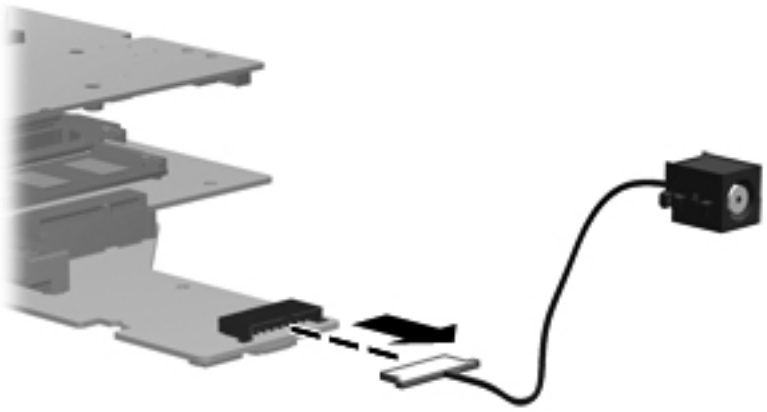
Description	Spare part number
Power connector (includes cable)	602743-001

Before removing the power connector cable:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first disconnecting the power cord from the AC outlet and then disconnecting the AC adapter from the computer.
4. Remove the battery (see “Battery” on page 4-7)
5. Remove the battery (see “Battery” on page 4-7).
6. Remove the battery (see “Battery” on page 4-7).
7. Remove the hard drive (see “Hard drive” on page 4-8).
8. Remove the memory module (see “Memory module” on page 4-10).
9. Remove the wireless module (see “Wireless module” on page 4-12).
10. Remove the optical drive (see “Optical drive” on page 4-14).
11. Remove the keyboard (see “Keyboard” on page 4-17).
12. Remove the top cover (see “Top cover” on page 4-20).
13. Remove the display assembly (see “Display assembly” on page 4-26).

Remove the power connector cable:

1. To remove the power connector cable, disconnect the cable connector ❶ from the system board.
2. Remove the power connector cable by lifting it straight up from the base enclosure ❷.



Reverse this procedure to install the power connector cable.

Bluetooth module

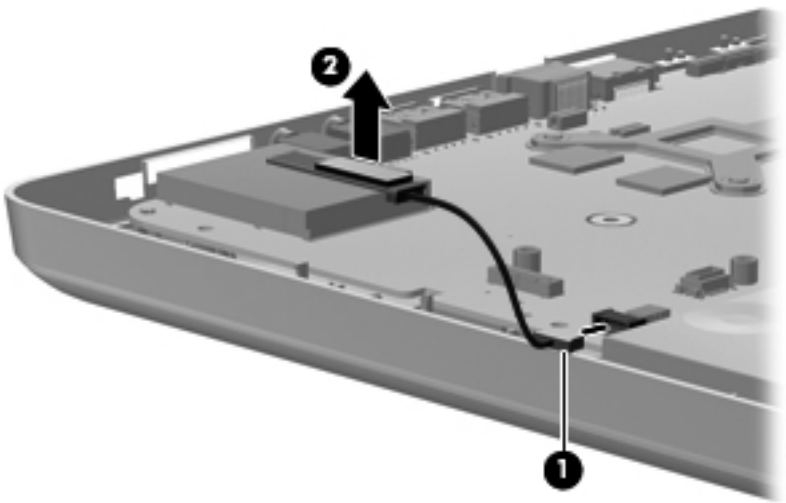
Description	Spare part number
Bluetooth module	537921-001
Bluetooth module cable	602538-001

Before removing the Bluetooth module:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first disconnecting the power cord from the AC outlet and then disconnecting the AC adapter from the computer.
4. Remove the battery (see "Battery" on page 4-7).
5. Remove the battery (see "Battery" on page 4-7).
6. Remove the hard drive (see "Hard drive" on page 4-8).
7. Remove the memory module (see "Memory module" on page 4-10).
8. Remove the wireless module (see "Wireless module" on page 4-12).
9. Remove the optical drive (see "Optical drive" on page 4-14).
10. Remove the keyboard (see "Keyboard" on page 4-17).
11. Remove the top cover (see "Top cover" on page 4-20).
12. Remove the display assembly (see "Display assembly" on page 4-26).

Remove the Bluetooth module:

1. Disconnect the Bluetooth module cable ❶ from the system board.
2. Remove the Bluetooth module ❷.



Reverse this procedure to install the Bluetooth module.

Modem

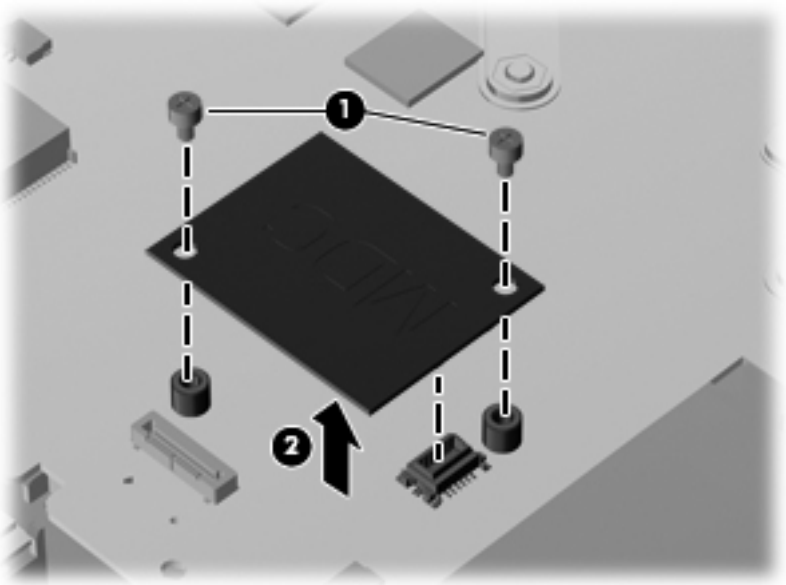
Description	Spare part number
All countries and regions except for Australia and New Zealand (for models 1.0 and 1.1 only)	510100-001
Australia and New Zealand (for models 1.0 and 1.1 only)	510100-011

Before removing the modem:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first disconnecting the power cord from the AC outlet and then disconnecting the AC adapter from the computer.
4. Remove the battery (see "Battery" on page 4-7)
5. Remove the battery (see "Battery" on page 4-7).
6. Remove the battery (see "Battery" on page 4-7).
7. Remove the hard drive (see "Hard drive" on page 4-8).
8. Remove the memory module (see "Memory module" on page 4-10).
9. Remove the wireless module (see "Wireless module" on page 4-12).
10. Remove the optical drive (see "Optical drive" on page 4-14).
11. Remove the keyboard (see "Keyboard" on page 4-17).
12. Remove the top cover (see "Top cover" on page 4-20).
13. Remove the display assembly (see "Display assembly" on page 4-26).

Remove the modem:

1. Remove the two Phillips PM2.0×3.0 screws ❶ that secure the modem to the system board.
2. Lift up the modem from the computer ❷.



Reverse this procedure to install the modem.

System board

The system board spare part kit includes UMA or discrete graphics subsystem memory and replacement thermal material.

Description	Spare part number
HM55 Discrete system board (for models 1.0 and 1.1 only)	595181-001
HM55 UMA system board	595182-001
HM55 HDMI Discrete system board (for models 1.0 and 1.1 only)	595183-001
HM44 HDMI UMA system board	595184-001
HM55 HD545V discrete system board (for model 1.1 only)	615577-001
HM55 HD545V discrete system board with HDMI card reader (for model 1.1 only)	615578-001
GL40 UMA system board (for models 1.1 and 1.2 only)	605139-001
GL40 UMA system board with HDMI card reader (for models 1.1 and 1.2 only)	605140-001
HD5470/512 MB discrete system board (for model 1.2 only)	615579-001
HD5470/512 MB discrete system board with HDMI card reader (for model 1.2 only)	615580-001
HD5470/1 G discrete system board (for model 1.2 only)	615581-001
HD5470/1 G discrete system board with HDMI card reader (for model 1.2 only)	615582-001
GL40 DDR2 UMA system board (for model 1.1 only)	616448-001
GL40 DDR2 UMA system board with HDMI card reader (for model 1.1 only)	616449-001
HM55 WiMax UMA system board with HDMI card reader (for model 1.2 only)	628482-001
HD6370/512 MB discrete system board (for model 1.3 only)	631593-001
HD6370/1 GB discrete system board (for model 1.3 only)	631594-001
HD6370/512 MB discrete system board with HDMI card reader (for model 1.3 only)	631595-001
HD6370/1 GB discrete system board with HDMI card reader (for model 1.3 only)	631596-001
i3-350M UMA system board (for model 1.3 only)	634648-001
HD6370/512 MB i3-350M discrete system board (for model 1.3 only)	634649-001
i3-370M UMA system board (for model 1.3 only)	637583-001
HD6370/512 MB i3-370M (for model 1.3 only)	637584-001

Before removing the system board:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first disconnecting the power cord from the AC outlet and then disconnecting the AC adapter from the computer.
4. Remove the battery (see “Battery” on page 4-7)
5. Remove the battery (see “Battery” on page 4-7).
6. Remove the battery (see “Battery” on page 4-7).
7. Remove the hard drive (see “Hard drive” on page 4-8).
8. Remove the memory module (see “Memory module” on page 4-10).
9. Remove the wireless module (see “Wireless module” on page 4-12).

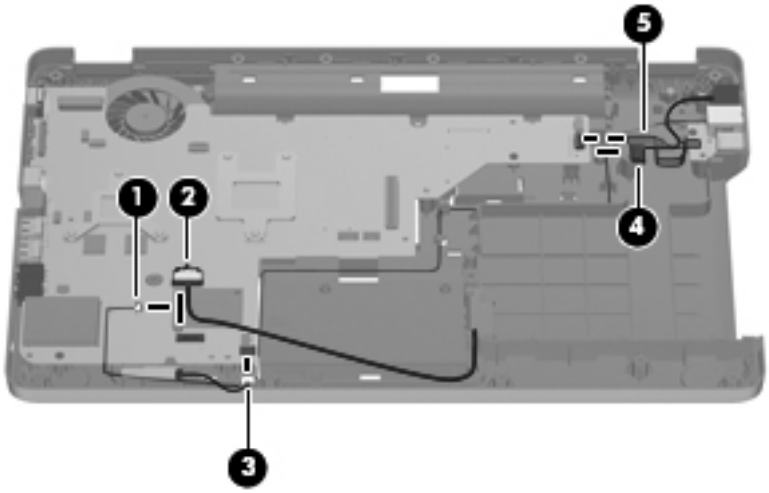
10. Remove the optical drive (see “Optical drive” on page 4-14).
11. Remove the keyboard (see “Keyboard” on page 4-17).
12. Remove the top cover (see “Top cover” on page 4-20).
13. Remove the display assembly (see “Display assembly” on page 4-26).

When replacing the system board, be sure that the following components are removed from the defective system board and installed on the replacement system board:

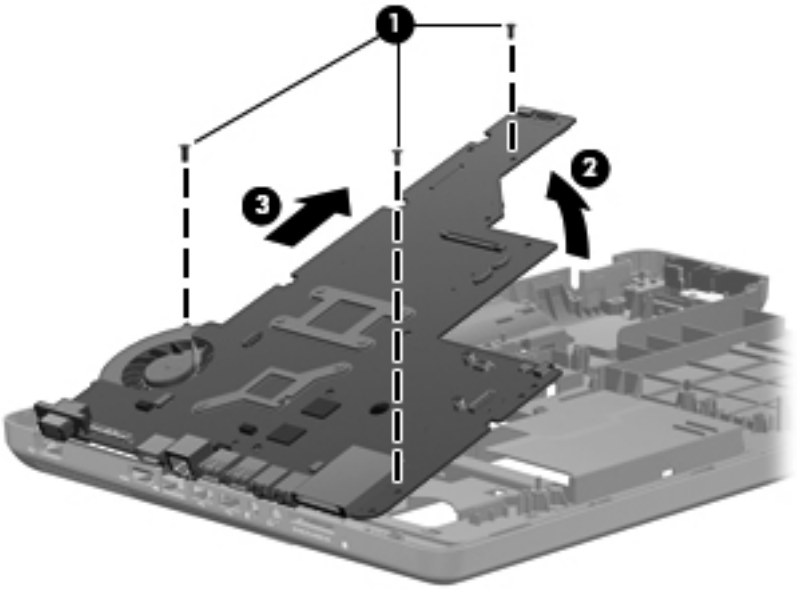
- Memory module (see “Memory module” on page 4-10)
- Wireless module (see “Wireless module” on page 4-12)
- Modem module (see “Modem” on page 4-36)
- Fan/heat sink assembly (see “Fan/heat sink assembly” on page 4-41)
- Processor (see “Processor” on page 4-47)

Remove the system board:

1. Disconnect the RJ-11 cable ❶ from its mounting clip in the base enclosure.
2. Disconnect the optical drive connector cable ❷ from the system board.
3. Disconnect the bluetooth cable ❸ from the system board.
4. Disconnect the USB cable ❹ from the system board.
5. Disconnect the power connector cable ❺ from the system board.



6. Remove the three PM2.5×4.0 screws ❶ that secure the system board to the base enclosure.
7. Grasp the right edge ❷ of the system board.
8. Lift the system board ❸, and pull it away from the base enclosure ❹ at an angle.



Reverse this procedure to install the system board.

RTC battery

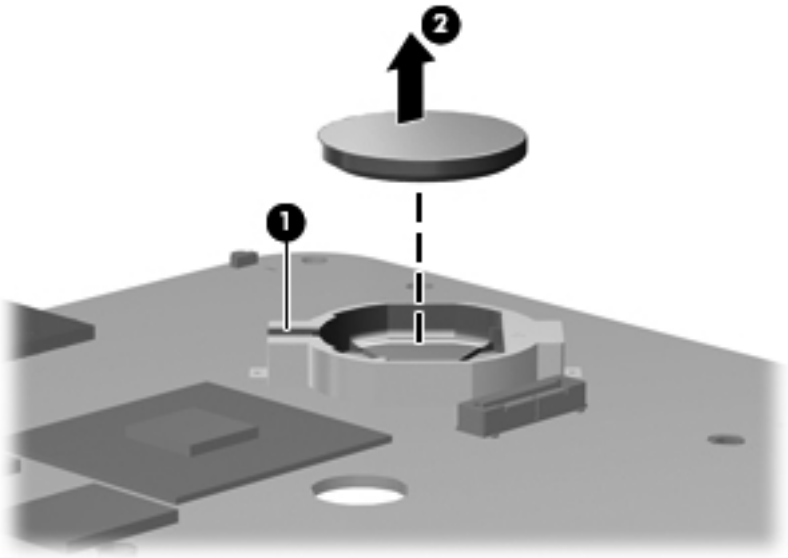
Description	Spare part number
RTC battery	602745-001

Before removing the RTC battery:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first disconnecting the power cord from the AC outlet and then disconnecting the AC adapter from the computer.
4. Remove the battery (see “Battery” on page 4-7)
5. Remove the battery (see “Battery” on page 4-7).
6. Remove the battery (see “Battery” on page 4-7).
7. Remove the hard drive (see “Hard drive” on page 4-8).
8. Remove the memory module (see “Memory module” on page 4-10).
9. Remove the wireless module (see “Wireless module” on page 4-12).
10. Remove the optical drive (see “Optical drive” on page 4-14).
11. Remove the keyboard (see “Keyboard” on page 4-17).
12. Remove the top cover (see “Top cover” on page 4-20).
13. Remove the display assembly (see “Display assembly” on page 4-26).
14. Remove the sytem board (see “System board” on page 4-37).

Remove the RTC battery:

1. Use a sharp, non-conductive tool to release the clip ❶ that secures the battery to the system board.
2. Lift the battery ❷ out of the computer.



Reverse this procedure to install the RTC battery.

Fan/heat sink assembly

Description	Spare part number
Fan/heat sink assembly (includes replacement thermal material) for use only with computer models with UMA graphics subsystem memory	595832-001
Fan/heat sink assembly (includes replacement thermal material) for use only with computer models with discrete graphics subsystem memory	595833-001
Fan/heat sink assembly (includes replacement thermal material) for use only with computer models with GL40 UMA systems graphics subsystem memory (for models 1.1 and 1.2 only)	606573-001
Fan/heat sink assembly (includes replacement thermal material) for use only with computer models with HD545V discrete graphics subsystem memory (for model 1.1 only)	617024-001
Fan/heat sink assembly (includes replacement thermal material) for use only with computer models with discrete graphics subsystem memory (for model 1.3 only)	634650-001
Fan/heat sink assembly (includes replacement thermal material) for use only with computer models with UMA graphics subsystem memory (for model 1.3 only)	634651-001

Before removing the fan/heat sink assembly:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first disconnecting the power cord from the AC outlet and then disconnecting the AC adapter from the computer.
4. Remove the battery (see “Battery” on page 4-7)
5. Remove the battery (see “Battery” on page 4-7).
6. Remove the battery (see “Battery” on page 4-7).
7. Remove the hard drive (see “Hard drive” on page 4-8).
8. Remove the memory module (see “Memory module” on page 4-10).
9. Remove the wireless module (see “Wireless module” on page 4-12).
10. Remove the optical drive (see “Optical drive” on page 4-14).
11. Remove the keyboard (see “Keyboard” on page 4-17).
12. Remove the top cover (see “Top cover” on page 4-20).
13. Remove the display assembly (see “Display assembly” on page 4-26).
14. Remove the sytem board (see “System board” on page 4-37).

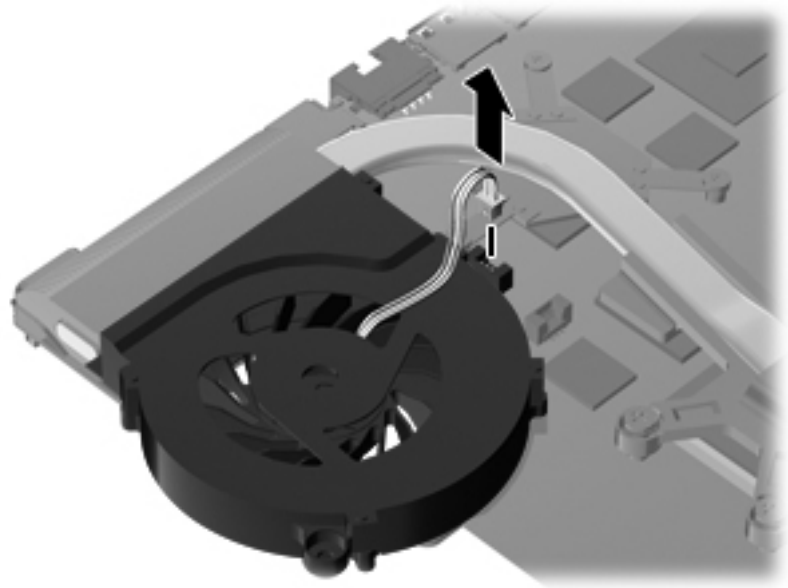
Remove the fan/heat sink assembly:

Due to the adhesive quality of the thermal material located between the fan/heat sink assembly and system board components, you might need to move the fan/heat sink assembly from side to side to detach the assembly.

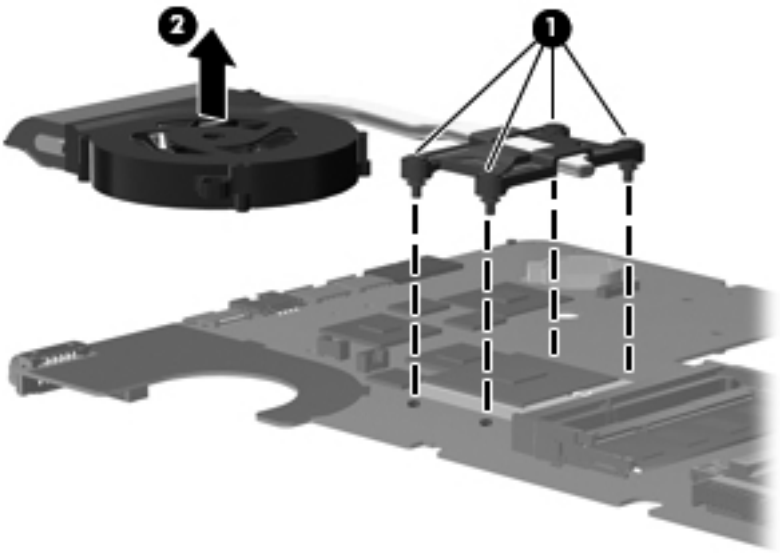
CAUTION: To avoid damage to the processor, loosen the fan/heat sink assembly screws in the sequence indicated on the heat sink assembly. Likewise, tighten the screws in the same sequence when installing the fan/heat sink assembly.

Steps 1 through 4 apply only to computer models equipped with graphics subsystems having UMA memory.

1. Turn the system board right-side up, with the front toward you.
2. Disconnect the fan cable from the system board.

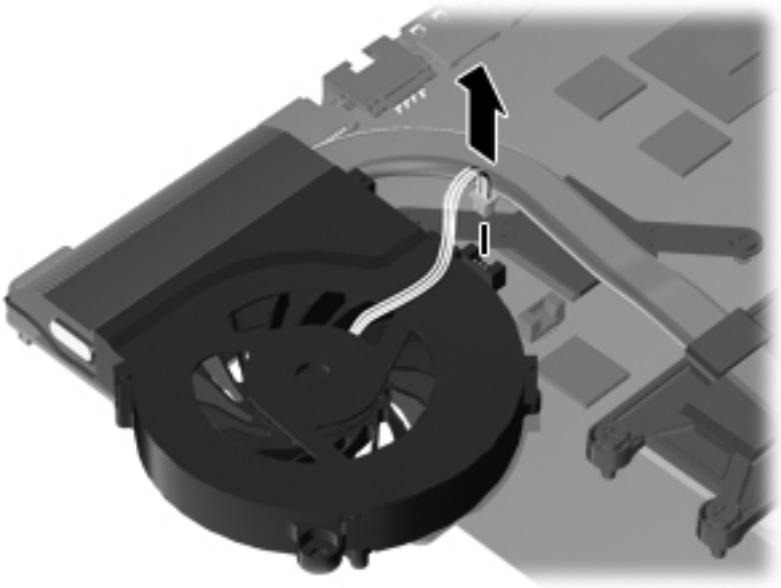


3. Loosen the four Phillips spring-loaded captive screws ❶ that secure the fan/heat sink assembly.
4. Remove the fan/heat sink assembly ❷ by lifting it straight up.

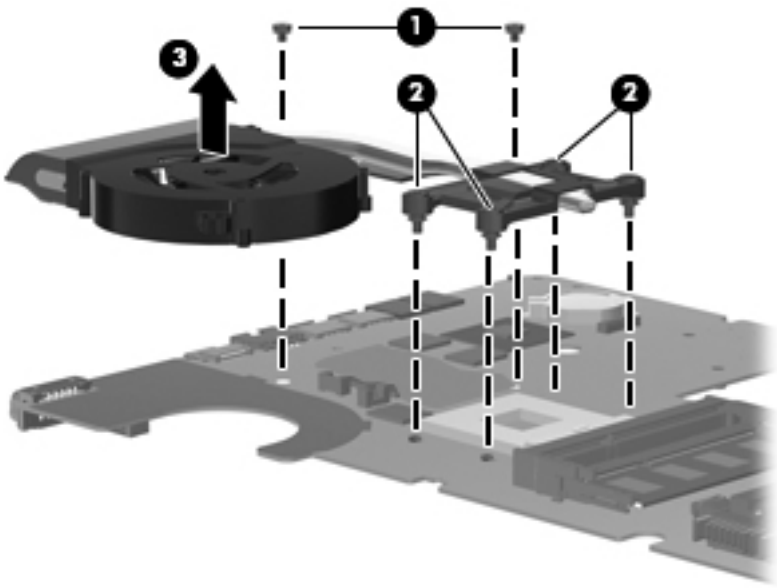


Steps 5 through 8 apply only to computer models equipped with graphics subsystems having discrete memory.

5. Turn the system board right-side up, with the front toward you.
6. Disconnect the fan cable from the system board.



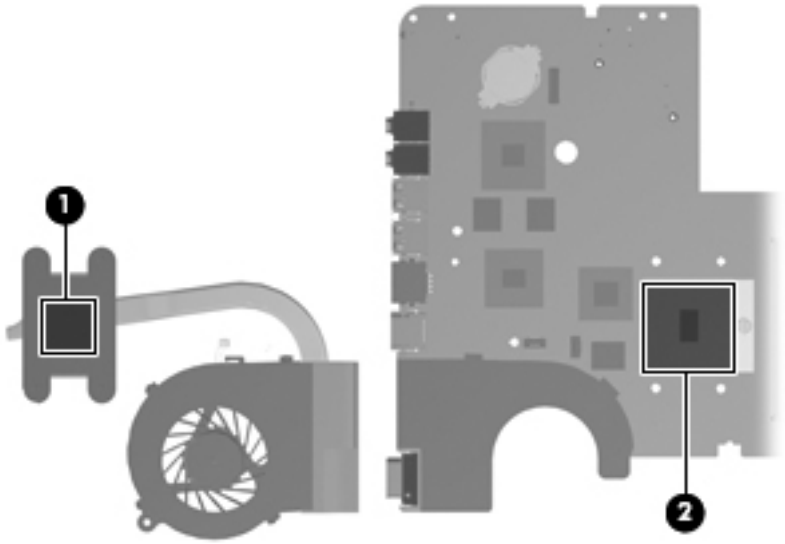
7. Loosen the two Phillips captive screws ❶ and four Phillips spring-loaded captive screws ❷ that secure the fan/heat sink assembly.
8. Remove the fan/heat sink assembly ❸ by lifting it straight up.



Reverse this procedure to install the fan/heat sink assembly.

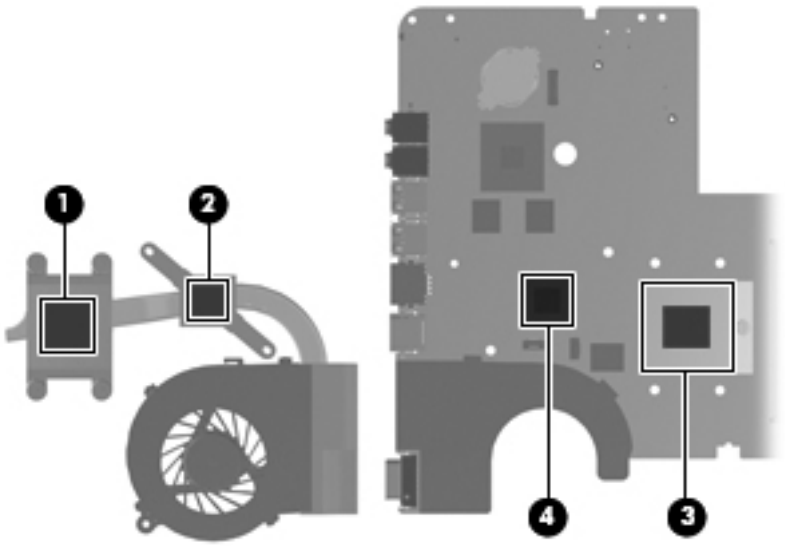
The following illustration shows the replacement thermal material locations for computer models graphics subsystems having UMA memory

The thermal material must be thoroughly cleaned from the surfaces of the fan/heat sink assembly and the system board components each time the fan/heat sink assembly is removed. Thermal grease is located on the section of the fan/heat sink assembly ❶ that services the processor ❷. Replacement thermal grease and pads are included in spare parts kits for all system boards, fan/heat sink assemblies, and processors.



The following illustration shows the replacement thermal material locations for computer models equipped with graphics subsystems with discrete memory.

The thermal material must be thoroughly cleaned from the surfaces of the fan/heat sink assembly and the system board components each time the fan/heat sink assembly is removed. Thermal grease is located on the section of the fan/heat sink assembly ❶ that services the processor ❸. A thermal pad is located on the section of the fan/heat sink assembly ❷ that services the Northbridge chip ❹. Replacement thermal grease and pads are included with all system board, fan/heat sink assembly, and processor spare part kits.



Reverse this procedure to install the fan/heat sink assembly.

Processor

The processor spare part kit includes replacement thermal material.

Description	Spare part number
Intel Core i7-620M Processor (4M cache, 2.66 GHz, SC turbo up to 3.33 GHz) (for model 1.0 only)	587259-001
Intel Core i5-540M Processor (3M cache, 2.53 GHz, SC turbo up to 3.06 GHz) (for model 1.0, 1.1 and 1.2 only)	594188-001
Intel Core i5-520M Processor (3M cache, 2.4 GHz, SC turbo up to 2.93 GHz) (for model 1.0, 1.1 and 1.2 only)	594187-001
Intel Core i5-430M Processor (3M cache, 2.26 GHz, SC turbo up to 2.53 GHz) (for model 1.0, 1.1 and 1.2 only)	597624-001
Intel Core i3-350M Processor (3M cache, 2.26 GHz) (for model 1.0, 1.1 and 1.2 only)	597623-001
Intel Core i3-330M Processor (3M cache, 2.13 GHz) (for model 1.0 only)	597622-001
Intel Penryn T4300 Processor (3M cache, 2.1 GHz) (for model 1.1 only)	572929-001
Intel Penryn T3100 Processor (3M cache, 1.9 GHz) (for model 1.1 only)	572925-001
Intel Penryn T4400 Processor (3M cache, 2.2 GHz) (for models 1.1 and 1.2 only)	584296-001
Intel Penryn T3300 Processor (3M cache, 2.0 GHz) (for models 1.1 and 1.2 only)	592399-001
Pentium Arrandale P6000 Processor (3M cache, 1.86 GHz) (for models 1.1 and 1.2 only)	613586-001
Pentium Arrandale P6100 Processor (3M cache, 2.0 GHz) (for models 1.2 and 1.3 only)	613587-001
Intel Penryn T4500 Processor (3M cache, 2.3 GHz) (for model 1.1 only)	591880-001
Intel Core i5-450M Processor (3M cache, 2.4 GHz, SC turbo up to 2.53 GHz) (for models 1.1, 1.2 and 1.3 only)	613585-001
Intel Core i3-370M Processor (3M cache, 2.4 GHz, SC turbo up to 2.53 GHz) (for models 1.1, 1.2 and 1.3 only)	613584-001
Intel Core i5-560M Processor (3M cache, 2.66-3.2 GHz, SC turbo up to 2.53 GHz) (for models 1.2 and 1.3 only)	625824-001
Intel Core i5-460M Processor (3M cache, 2.53 GHz, SC turbo up to 2.53 GHz) (for models 1.2 and 1.3 only)	626039-001
Intel Core i3-380M Processor (3M cache, 2.53 GHz, SC turbo up to 2.53 GHz) (for models 1.2 and 1.3 only)	625823-001
Intel Pentium P6200 Processor (3M cache, 2.13 GHz) (for models 1.2 and 1.3 only)	625831-001
Intel Core i5-580M Processor (3M cache, 2.66-3.33 GHz, SC turbo up to 2.53 GHz) (for models 1.2 and 1.3 only)	625825-001
Intel Penryn T3500 Processor (3M cache, 2.1 GHz) (for model 1.2 only)	625830-001
Intel Celeron 900 Processor (3M cache, 2.2 GHz) (for models 1.1 and 1.2 only)	534419-001
Intel Pentium Arrandale P6300 Processor (3M cache 2.26 GHz) (for model 1.3 only)	635500-001
Intel Processor I3-390M 2.66GHz (for model 1.3 only)	634692-001
Intel 15-480MProcessor 2.3GHz (for model 1.3 only)	634693-001
Intel Celeron 925 Processor 2.3GHz (for model 1.3 only)	636636-001

Before removing the processor, follow these steps:

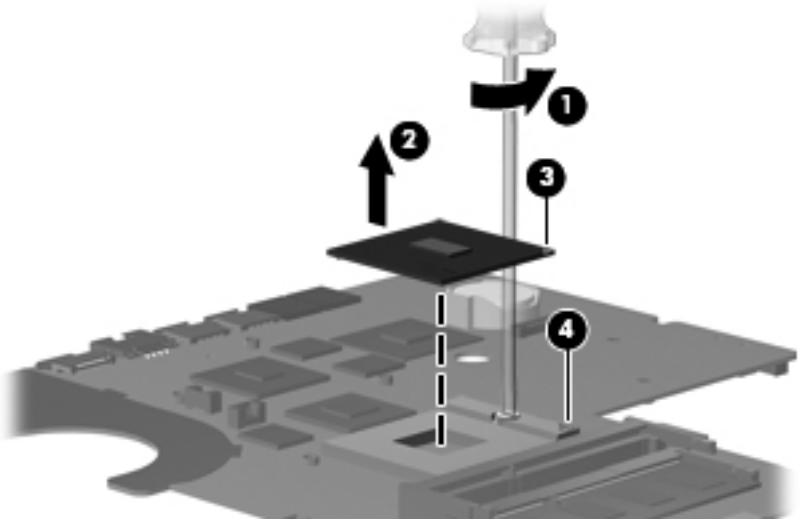
1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.

3. Disconnect the power from the computer by first disconnecting the power cord from the AC outlet and then disconnecting the AC adapter from the computer.
4. Remove the battery (see “Battery” on page 4-7)
5. Remove the battery (see “Battery” on page 4-7).
6. Remove the battery (see “Battery” on page 4-7).
7. Remove the hard drive (see “Hard drive” on page 4-8).
8. Remove the memory module (see “Memory module” on page 4-10).
9. Remove the wireless module (see “Wireless module” on page 4-12).
10. Remove the optical drive (see “Optical drive” on page 4-14).
11. Remove the keyboard (see “Keyboard” on page 4-17).
12. Remove the top cover (see “Top cover” on page 4-20).
13. Remove the display assembly (see “Display assembly” on page 4-26).
14. Remove the sytem board (see “System board” on page 4-37).
15. Remove the fan/heat sink assembly (see “Fan/heat sink assembly” on page 4-41).

Remove the processor:

1. Use a flat-bladed screwdriver to turn the processor locking screw ❶ one-half turn counterclockwise until you hear a click.
2. Lift the processor ❷ straight up and remove it.

When you install the processor, the gold triangle on the processor ❸ must be aligned with the triangle embossed on the processor slot ❹.



Reverse this procedure to install the processor.

RJ-11 connector

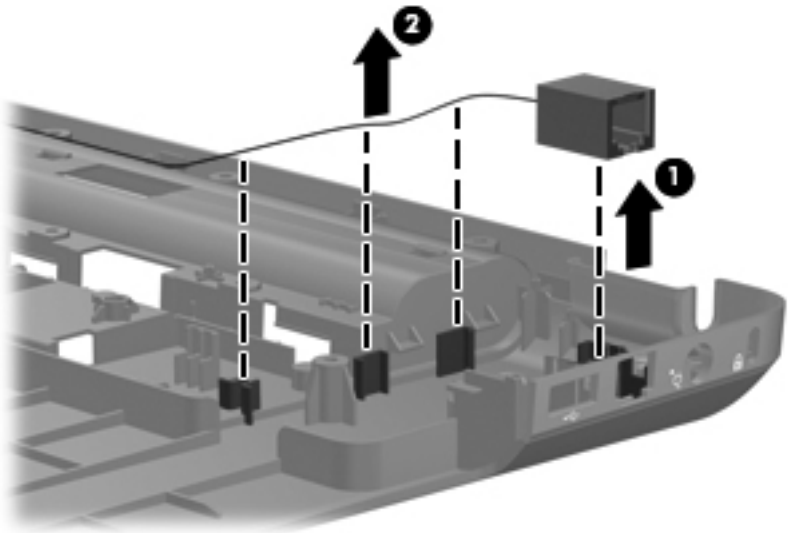
Description	Spare part number
RJ-11 connector included in Cable Kit	595201-001

Before removing the RJ-11 connector:

1. Shut down the computer. If you are unsure whether the computer is off or in Hibernation, turn the computer on, and then shut it down through the operating system.
2. Disconnect all external devices connected to the computer.
3. Disconnect the power from the computer by first disconnecting the power cord from the AC outlet and then disconnecting the AC adapter from the computer.
4. Remove the battery (see “Battery” on page 4-7)
5. Remove the battery (see “Battery” on page 4-7).
6. Remove the battery (see “Battery” on page 4-7).
7. Remove the hard drive (see “Hard drive” on page 4-8).
8. Remove the memory module (see “Memory module” on page 4-10).
9. Remove the wireless module (see “Wireless module” on page 4-12).
10. Remove the optical drive (see “Optical drive” on page 4-14).
11. Remove the keyboard (see “Keyboard” on page 4-17).
12. Remove the top cover (see “Top cover” on page 4-20).
13. Remove the display assembly (see “Display assembly” on page 4-26).
14. Remove the sytem board (see “System board” on page 4-37).

Remove the RJ-11 connector

1. Remove the cable from the clips ❶, and then lift the connector straight up ❷ and out of the computer.



Reverse this procedure to install the RJ-11 connector.

5

Setup Utility

Starting Setup Utility

Setup Utility is a ROM-based information and customization utility that can be used even when the Windows operating system is not working.

CAUTION: Open Setup Utility by turning on or restarting the computer. While the Press the ESC key for Startup Menu message appears in the lower-left corner of the screen, press the **f10** key.

The utility reports information about the computer and provides settings for startup, security, and other preferences.

To start Setup Utility:

Open Setup Utility by turning on or restarting the computer. When the Press the ESC key for Startup Menu message appears in the lower left corner of the screen, press the **f10** key.

– or –

1. Open Setup Utility by turning on or restarting the computer. When the Press the ESC key for Startup Menu message appears in the lower left corner of the screen, press the **esc** key.
2. When the Startup Menu appears, press the **f10** key.

Changing the language of Setup Utility

The following procedure explains how to change the language of Setup Utility. If Setup Utility is not already running, begin at step 1. If Setup Utility is already running, begin at step 2.

1. Open Setup Utility by turning on or restarting the computer. When the Press the ESC key for Startup Menu message appears in the lower left corner of the screen, press the **f10** key.

   – or –

   Open Setup Utility by turning on or restarting the computer. When the Press the ESC key for Startup Menu message appears in the lower left corner of the screen, press the **esc** key. When the Startup Menu appears, press the **f10** key.
2. Use the arrow keys to select **System Configuration > Language**, and then press the **enter** key.
3. Use the arrow keys to select a language, and then press the **enter** key.
4. When a confirmation prompt with the language selected appears, press the **enter** key.
5. To save the change and exit Setup Utility, use the arrow keys to select **Exit > Exit Saving Changes**, and then press the **enter** key.

Changes go into effect immediately.

Navigating and selecting in Setup Utility

Because Setup Utility is not Windows based, it does not support the TouchPad. Navigation and selection are by keystroke.

- To choose a menu or a menu item, use the arrow keys.
- To choose an item in a list or to toggle a field, for example an Enable/Disable field, use either the arrow keys or press the **f5** or **f6** key.
- To select an item, press the **enter** key.
- To close a text box or return to the menu display, press the **esc** key.
- To display additional navigation and selection information while Setup Utility is open, press the **f1** key.

Displaying system information

Use Setup Utility to view such information as the system time and date and information that identifies the computer. The following procedure explains how to do this. If Setup Utility is not open, begin at step 1. If Setup Utility is open, begin at step 2.

1. Open Setup Utility by turning on or restarting the computer. When the Press the ESC key for Startup Menu message appears in the lower left corner of the screen, press the **f10** key.

   – or –

   Open Setup Utility by turning on or restarting the computer. When the Press the ESC key for Startup Menu message appears in the lower left corner of the screen, press the **esc** key. When the Startup Menu appears, press the **f10** key.

2. Select the **Main** menu.
3. To exit Setup Utility without changing any settings, use the arrow keys to select **Exit > Exit Discarding Changes**, and then press the **enter** key.

Restoring default settings in Setup Utility

The following procedure explains how to restore Setup Utility default settings. If Setup Utility is not already running, begin at step 1. If Setup Utility is already running, begin at step 2.

1. Open Setup Utility by turning on or restarting the computer. When the Press the ESC key for Startup Menu message appears in the lower left corner of the screen, press the **f10** key.

   – or –

   Open Setup Utility by turning on or restarting the computer. When the Press the ESC key for Startup Menu message appears in the lower left corner of the screen, press the **esc** key. When the Startup Menu appears, press the **f10** key.

2. Use the arrow keys to select **Exit > Load Setup Defaults**, and then press the **enter** key.
3. When the Setup Confirmation appears, press the **enter** key.
4. To save the change and exit Setup Utility, use the arrow keys to select **Exit > Exit Saving Changes**, and then press the **enter** key.

Setup Utility default settings go into effect when the computer restarts.

The password, security, and language settings are not changed when you restore the factory default settings.

Exiting Setup Utility

You can exit Setup Utility with or without saving changes.

- To exit Setup Utility and save the changes from the current session:

  If the Setup Utility menus are not visible, press the **esc** key to return to the menu display. Then use the arrow keys to select **Exit > Exit Saving Changes**, and then press the **enter** key.

- To exit Setup Utility without saving the changes from the current session:

  If the Setup Utility menus are not visible, press the **esc** key to return to the menu display. Then use the arrow keys to select **Exit > Exit Discarding Changes**, and then press the **enter** key.

After either choice, the computer restarts in Windows.

Setup Utility menus

The menu tables in this section provide an overview of Setup Utility options.

Some of the Setup Utility menu items listed in this chapter might not be supported by the computer.

Main menu

Select	To do this
System information	■ View and change the system time and date. ■ View identification information about the computer. ■ View specification information about the processor, memory size, system BIOS, and keyboard controller version (select models only).

Security menu

Select	To do this
Administrator password	Enter, change, or delete an administrator password.
Power-On Password	Enter, change, or delete a power-on password.

System Configuration menu

Select	To do this
Language Support	Change Setup Utility language.
Button Sound (select models only)	Enable/disable the capacitive button tapping sound.
Virtualization Technology (select models only)	Enable/disable the processor Virtualization Technology.
Processor C6 State (select models only)	Enable/disable the processor C6 sleep state.
LAN Power Saving (select models only)	Enable/disable LAN Power Saving. When enabled, saves power when the computer is in DC mode.
Card Reader/1394 Power Saving (select models only)	Enable/disable Card Reader/1394 Power Saving. When enabled, saves power when the computer is in DC mode.
Fan Always On	Enabled/disable Fan Always On. When enabled, the computer fan is on.
Boot Options	Set the following boot options: ■ **f9** and **f10** Delay (sec.)—Set the delay for the **f9** and **f10** functions of the Setup Utility in intervals of 5 seconds each (0, 5, 10, 15, 20). ■ CD-ROM boot—Enable/disable boot from CD-ROM. ■ Floppy boot—Enable/disable boot from diskette. ■ Internal Network Adapter boot—Enable/disable boot from Internal Network Adapter. ■ Boot Order—Set the boot order for: USB Floppy Internal CD/DVD ROM Drive Processor C6 sleep state (select models only) USB CD/DVD ROM drive Hard drive USB Diskette on Key USB Hard drive Network adapter

Diagnostics menu

Select	To do this
Hard Disk Self Test	Run a comprehensive self-test on the hard drive. ✎ On models with two hard drives, this menu option is called the **Primary Hard Disk Self Test**.
Secondary Hard Disk Self Test (select models only)	Run a comprehensive self-test on a secondary hard drive.
Memory Test	Run a diagnostic test on the system memory.

6

Specifications

Computer specifications

	Metric	U.S.
Dimensions		
Width	**37.4 cm**	14.7 in
Depth	**24.7 cm**	9.7 in
Height (front)	**3.2 cm**	1.3 in
Height (rear	**3.7 cm**	1.5
Weight		
Equipped with 6-cell battery and optical drive	**2.5 kg**	5.5 lbs
Input power		
Operating voltage	18.5 V dc @ 3.5 A - 65 W or 19.0 V dc @ 4.74 A - 90 W	
Operating current	3.5 A or 4.74 A	
Temperature		
Operating (not writing to optical disc)	**0°C to 35°C**	32°F to 95°F
Operating (writing to optical disc)	**5°C to 35°C**	41°F to 95°F
Nonoperating	**-20°C to 60°C**	-4°F to 140°F
Relative humidity (noncondensing)		
Operating	**10% to 90%**	10% to 90%
Nonoperating	**5% to 95%**	5% to 95%
Maximum altitude (unpressurized)		
Operating	**-15 m to 3,048 m**	-50 ft to 10,000 ft
Nonoperating	**-15 m to 12,192 m**	-50 ft to 40,000 ft

✎ Applicable product safety standards specify thermal limits for plastic surfaces. The computer operates well within this range of temperatures.

39.6-cm (15.6-in) HD display specifications

	Metric	U.S.
Dimensions		
Height	**21.0 cm**	8.27 in
Width	**35.9 cm**	14.1 in
Diagonal	**39.6 cm**	15.6 in
Number of colors	Up to 16.8 million	
Contrast ratio	500:1 BV; 300:1 AG	
Brightness	200 nits typical	
Pixel resolution		
Pitch	0.259 x 0.259 mm	
Format	1368 x 768	
Configuration	RGB vertical strip	
Backlight	LED	
Character display	80 x 25	
Total power consumption	5.3 w	
Viewing angle	+/-45° horizontal, +15/-35 vertical typical	

Hard drive specifications

	750 GB*	500 GB*	320 GB*	250 GB*	160 GB*
Dimensions					
Height	9.5 mm	9.5 mm	9.5 mm	9.5 mm	9.5 mm
Width	70 mm	70 mm	70 mm	70 mm	70 mm
Weight	101g	115 g	115 g	115 g	115 g
Interface type	SATA	SATA	SATA	SATA	SATA
Transfer rate	100 MB/sec	140 MB/sec	140 MB/sec	140 MB/sec	140 MB/sec
Security	ATA security	ATA security	ATA security	ATA security	ATA security
Seek times (typical read, including setting)					
Single track	3 ms	3 ms	3 ms	3 ms	3 ms
Average	13 ms	13 ms	13 ms	13 ms	13 ms
Maximum	24 ms	24 ms	24 ms	24 ms	24 ms
Logical blocks	1,465,128,359	976, 773, 168	625,142, 448	488, 376,120	312, 560, 340
Disc rotational speed	5400 rpm	7200 rpm	7200 rpm	7200 rpm	7200 rpm
Operating temperature		5°C to 55°C (41°F to 131°F)			

*1 GB = 1 billion bytes when referring to hard drive storage capacity. Actual accessible capacity is less. Actual drive specifications might differ slightly.

Certain restrictions and exclusions apply. Contact technical support for details.

DVD±RW and CD-RW SuperMulti Double-Layer Combo Drive with LightScribe specifications

Applicable disc	**Read:**	**Write:**
	CD-DA, CD+(E)G, CD-MIDI, CD-TEXT, CD-ROM, CD-ROM XA, MIXED MODE CD, CD-I, CD-I Bridge (Photo-CD, Video CD), Multisession CD (Photo-CD, CD-EXTRA, Portfolio, CD-R, CD-RW), CD-R, CD-RW, DVD-ROM (DVD-5, DVD-9, DVD-10, DVD-18), DVD-R, DVD-RW, DVD+R, DVD+RW, DVD-system memory	CD-R and CD-RW DVD+R, DVD+RW, DVD-R, DVD-RW, DVD-system memory
Access time	**CD**	**DVD**
Random	< 175 ms	< 230 ms
Cache buffer	2 MB	
Data transfer rate		
24X CD-ROM	3,600 KB/sec	
8X DVD	10,800 KB/sec	
24X CD-R	3,600 KB/sec	
16X CD-RW	2,400 KB/sec	
8X DVD+R	10,800 KB/sec	
4X DVD+RW	5,400 KB/sec	
8X DVD-R	10,800 KB/sec	
4X DVD-RW	5,400 KB/sec	
2.4X DVD+R(9)	2,700 KB/sec	
5X DVD-system memory	6,750 KB/sec	

Blu-ray ROM with LightScribe DVD±R/RW SuperMulti Double-Layer Drive specifications

Applicable disc	Read:	Write:
	BD-ROM, BD-ROM-DL, BD-R, BD-R-DL, BD-RE, BD-RE-DL, DVD-ROM, DVD+R, DVD+R-DL, DVD+RW, DVD-R, DVD-R-DL, DVD-RW, DVD-system memory (Ver.2), CD-DA, CD-ROM (Mode 1 and mode 2), CD-ROM XA (Mode 2, form 1 and form 2), Photo CD (Single and multiple sessions), CD Extra, CD-R, CD-RW, and CD-TEXT	DVD-system memory (Ver.2), DVD+R, DVD-R, CD-R, and CD-RW
Access time	**BD**	**DVD**
Random	< 230 ms	< 180 ms
Cache buffer	4.5 MB	
Data transfer rate		
2X BD-system memory	9 MB/sec	
8X DVD	2,400 KB/sec	
16X CD-R	2,400 KB/sec	
16X CD-RW	2,400 KB/sec	

System DMA specifications

Hardware DMA	System function
DMA4	Direct memory access controller

System interrupt specifications

Hardware IRQ	System function
IRQ0	System Timer
IRQ1	Standard 101/102-Key or Microsoft natural PS/2 Keyboard with HP QLB
IRQ8	System CMOS/real time clock
IRQ10	Intel 5 Series/3400 Series Chipset Family SMBus Controller - 3B30
IRQ12	Synaptics PS/2 Port TouchPad
IRQ13	Numeric data processor
IRQ16	Intel 5 Series/3400 Series Chipset Family USB Enhanced Host Controller - 3B3C
IRQ16	Broadcom 802.11g Network Adapter
IRQ16	Intel 5 Series/3400 Series Chipset Family PCI Express Root Port 2 - 3B44
IRQ16	Intel Management Engine Interface
IRQ17	Realtek PCIe FE Family Controller
IRQ17	Intel 5 Series/3400 Series Chipset Family PCI Express Root Port 1 - 3B42
IRQ19	Intel Turbo Boost Technology Driver
IRQ19	Intel PCHM SATA AHCI Controller 4 Port
IRQ21	Intel 5 Series/3400 Series Chipset Family USB Enhanced Host Controller - 3B34
IRQ22	High Definition Audio Controller
IRQ81- IRQ190	Microsoft ACPI-Compliant System
IRQ4294967294	Intel Graphics Media Accelerator HB

System I/O address specifications

I/O address (hex)	System function (shipping configuration)
0x00000020-0x00000032	Programmable interrupt controller
0x00000024-0x00000025	Programmable interrupt controller
0x00000028-0x00000029	Programmable interrupt controller
0x0000002C-0x0000002D	Programmable interrupt controller
0x00000030-0x00000031	Programmable interrupt controller
0x00000034-0x00000035	Programmable interrupt controller
0x00000038-0x00000039	Programmable interrupt controller
0x0000003C-0x0000003D	Programmable interrupt controller
0x000000A0-0x000000A1	Programmable interrupt controller
0x000000A4-0x000000A5	Programmable interrupt controller
0x000000A8-0x000000A9	Programmable interrupt controller
0x000000AC-0x000000AD	Programmable interrupt controller
0x000000B0-0x000000B1	Programmable interrupt controller

(Continued)

I/O address (hex)	System function (shipping configuration)
0x000000B4-0x000000B5	Programmable interrupt controller
0x000000B8-0x000000B9	Programmable interrupt controller
0x000000BC-0x000000BD	Programmable interrupt controller
0x000004D0-0x000004D1	Programmable interrupt controller
0x00000040-0x00000043	System Timer
0x00000050-0x00000053	System Timer
0x00002000-0x000020FF	Realtek PCIe FE Family Controller
0x00002000-0x000020FF	Intel 5 Series/3400 Series Chipset Family PCI Express Root Port 2 - 3B44
0x00000000-0x0000001F	Direct memory access controller
0x00000000-0x0000001F	PCI bus
0x00000081-0x00000091	Direct memory access controller
0x00000093-0x0000009F	Direct memory access controller
0x000000C0-0x000000DF	Direct memory access controller
0x00003000-0x00003FFF	Intel Series/3400 Series Chipset Family PCI Express Root Port 1 - 3B42
0x00000060-0x00000060	Standard 101/102-Key or Microsoft Natural PS/2 Keyboard with HP QLB
0x00000064-0x00000064	Standard 101/102-Key or Microsoft Natural PS/2 Keyboard with HP QLB
0x00000D00-0x0000FFFF	PCI bus
0x00000070-0x00000077	System CMOS/real time clock
0x00000070-0x00000077	Motherboard resources
0x0000002E-0x0000002F	Motherboard resources
0x0000004E-0x0000004F	Motherboard resources
0x00000061-0x00000061	Motherboard resources
0x00000063-0x00000063	Motherboard resources
0x00000065-0x00000065	Motherboard resources
0x00000067-0x00000067	Motherboard resources
0x00000080-0x00000080	Motherboard resources
0x00000092-0x00000092	Motherboard resources
0x000000B2-0x000000B3	Motherboard resources
0x00000680-0x0000069F	Motherboard resources
0x00000800-0x0000080F	Motherboard resources
0x0000FFFF-0x0000FFFF	Motherboard resources
0x0000FFFF-0x0000FFFF	Motherboard resources
0x00000400-0x0000047F	Motherboard resources
0x00000500-0x0000057F	Motherboard resources
0x0000464E-0x0000164F	Motherboard resources
0x00000380-0x0000038E	Motherboard resources
0x000000F0-0x000000F0	Numeric data processor
0x00004050-0x00004057	Intel Graphics Media Accelerator HD

(Continued)

I/O address (hex)	System function (shipping configuration)
0x000003B0-0x000003BB	Intel Graphics Media Accelerator HD
0x000003C0-0x000003DF	Intel Graphics Media Accelerator HD
0x00000062-0x00000062	Microsoft ACPI-Compliant Embedded Controller
0x00000066-0x00000066	Microsoft ACPI Compliant Embedded Controller
0x00004048-0x0000404F	Intel PCHM SATA AHCI Controller 4 Port
0x0000405C-0x0000405F	Intel PCHM SATA AHCI Controller 4 Port
0x00004040-0x00004047	Intel PCHM SATA AHCI Controller 4 Port
0x00004058-0x0000405B	Intel PCHM SATA AHCI Controller 4 Port
0x00004020-0x0000403F	Intel PCHM SATA AHCI Controller 4 Port
0x00004000-0x0000401F	Intel 5 Series/3400 Series Chipset Family SMBus Controller - 3B30

System memory map specifications

Memory address	System function
0x54404000-0x54404FFF	Intel Turbo Boost Technology Driver
0x54405800-0x54405BFF	Intel 5 Series/3400 Series Chipset Family USB Enhanced Host Controller - 3B34
0xFF000000-0xFFFFFFFF	Intel 82802 Firmware Hub Device
0xFF000000-0xFFFFFFFF	Motherboard resources
0x54405C00-0x54405FFF	Intel Series/3400 Series Chipset Family USB Enhanced Host Controller - 3B3C
0x51410000-0x51410FFF	Realtek PCIe FE Family Controller
0x51400000-0x5140FFFF	Realtek PCIe FE Family Controller
0x51400000-0x5140FFFF	Intel 5 Series/3400 Series Chipset Family PCI Express Root Port 2 - 3B44
0xFED00000-0xFED003FF	High precision event timer
0x53400000-0x543FFFFF	Intel 5 Series/3400 Series Chipset Family PCI Express Root Port 1 - 3B42
0x53400000-0x543FFFFF	Broadcom 802.11g Network Adapter
0x50400000-0x513FFFFF	Intel 5 Series/3400 Series Chipset Family PCI Express Root Port 1 - 3B42
0xA0000-0xBFFFF	PCI bus
0xA0000-0xBFFFF	Intel Graphics Media Accelerator HD
0x3C000000-0xFEAFFFFF	PCI bus
0x3C000000-0xFEAFFFFF	Motherboard resources
0x52400000-0x533FFFFF	Intel 5 Series/3400 Series Chipset Family PCI Express Root Port 2- 3B44
0xFED1C000-0xFED1FFFF	Motherboard resources
0xFED10000-0xFED13FFF	Motherboard resources
0xFED18000-0xFED18FFF	Motherboard resources
0xFED19000-0xFED19FFF	Motherboard resources
0xE0000000-0xEFFFFFFF	Motherboard resources
0xFED20000-0xFED3FFFF	Motherboard resources

(Continued)

Memory address	System function
0xFED45000-0xFED8FFFF	Motherboard resources
0xFEE00000-0xFEEFFFFF	Motherboard resources
0x54400000-0x54403FFF	High Definition Audio Controller
0x50000000-0x503FFFFF	Intel Graphics Media Accelerator HD
0x40000000-0x4FFFFFFF	Intel Graphics Media Accelerator HD
0x54405000-0x544057FF	Intel PCHM SATA AHCI Controller 4 Port
0x54406100-0x5440610F	Intel Management Engine Interface
0x54406000-0x544060FF	Intel 5 Series/3400 Series Chipset Family SMBus Controller - 3B30

7

Backup and recovery

Recovery after a system failure is as complete as your most current backup. HP recommends creating recovery discs immediately after software setup. As you add new software and data files, continue to back up your system on a regular basis to maintain a reasonably current backup.

Tools provided by the operating system and HP Recovery Manager software are designed to help you with the following tasks for safeguarding your information and restoring it in case of a system failure:

- Creating a set of recovery discs (Recovery Manager software feature). Recovery discs are used to start up (boot) the computer and restore the operating system and software programs to factory settings in case of system failure or instability.
- Backing up your information regularly to protect your important system files.
- Creating system restore points (operating system feature). System restore points allow you to reverse undesirable changes to the computer by restoring the computer to an earlier state.
- Recovering a program or driver (Recovery Manager software feature). This feature helps you reinstall a program or driver without performing a full system recovery.
- Performing a full system recovery (Recovery Manager software feature). With Recovery Manager, you can recover your full factory image if you experience system failure or instability. Recovery Manager works from a dedicated recovery partition (select models only) on the hard drive or from recovery discs you create.

✎ If the computer includes a solid-state drive (SSD), you might not have a recovery partition. Recovery discs have been included for computers that do not have a partition. Use these discs to recover your operating system and software. To check for the presence of a recovery partition, select **Start > Computer**. If the partition is present, an HP Recovery drive is listed in the Hard Disk Drives section of the window.

Creating recovery discs

HP recommends creating recovery discs to be sure that you can restore your system to its original factory state if you experience serious system failure or instability. Create these discs after setting up the computer for the first time.

Handle these discs carefully and keep them in a safe place. The software allows the creation of only one set of recovery discs.

✎ If the computer does not include an internal optical drive, use an optional external optical drive (purchased separately) to create recovery discs, or purchase recovery discs for the computer from the HP website.

Note the following guidelines before creating recovery discs:

- Use high-quality DVD-R, double-layer DVD-R, DVD+R, double-layer DVD+R, BD-R (writable Blu-ray), or CD-R discs. All these discs are purchased separately. DVDs and BDs have a much higher capacity than CDs. If you use CDs, up to 20 discs might be required, whereas only a few DVDs or BDs are required.

  ✎ Read-write discs, such as CD-RW, DVD±RW, double-layer DVD±RW, and BD-RE (rewritable Blu-ray) discs, are not compatible with the Recovery Manager software.

- The computer must be connected to AC power during this process.
- Only one set of recovery discs can be created per computer.

- Number each disc before inserting it into the optical drive.
- If necessary, exit the program before you have finished creating the recovery discs. The next time you open Recovery Manager, you are prompted to continue the disc creation process.

To create a set of recovery discs:

1. Select **Start > All Programs > Recovery Manager > Recovery Manager**.

   Recovery Manager opens.

2. Click **Advanced Options**.

   ✎ If you are operating the computer on battery power, you are prompted to connect to AC power before you can go to the next step.

3. Click **Recovery disc creation**, and then click **Next**.
4. Follow the on-screen instructions.

When to back up

- On a regularly scheduled basis

  ✎ Set reminders to back up your information periodically.

- Before the computer is repaired or restored
- Before you add or modify hardware or software

Backup suggestions

- Create a set of recovery discs using Recovery Manager.
- Create system restore points using the Windows System Restore feature, and periodically copy them to disc.
- Store personal files in the Documents folder and back up this folder periodically.
- Back up templates stored in their associated programs.
- Save customized settings in a window, toolbar, or menu bar by taking a screen shot of your settings. The screen shot can be a time-saver if you have to reset your preferences.

  To copy the screen and paste it into a word-processing document:

  a. Display the screen.

  b. Copy the screen:

     To copy only the active window, press **alt+fn+prt sc**.

     To copy the entire screen, press **fn+prt sc**.

  c. Open a word-processing document, and then select **Edit > Paste**.

Using system restore points

When backing up your system, you are creating a system restore point. A system restore point allows you to save and name a snapshot of your hard drive at a specific point in time. Recover back to that point if you want to reverse subsequent changes made to your system.

Recovering to an earlier restore point does not affect data files saved or e-mails created since the last restore point.

Create additional restore points to provide increased protection for your system files and settings.

When to create restore points

- Before adding or extensively modifing software or hardware
- Periodically, whenever the system is performing optimally

If you revert to a restore point and then change your mind, reverse the restoration.

To create a system restore point

1. Select **Start > Control Panel > System and Maintenance > System**.
2. In the left pane, click **System Protection**.
3. Click the **System Protection** tab.
4. Under **Automatic restore points**, select the disk for which you want to create a restore point.
5. Click **Create**.

   The System Protection window opens.
6. Follow the on-screen instructions.

Restore to a previous date and time

To revert to a restore point (created at a previous date and time), when the computer was functioning optimally:

1. Select **Start > Control Panel > System and Maintenance > System**.
2. In the left pane, click **System protection**.
3. Click the **System Protection** tab.
4. Click the **System Restore** button, and then click **Next**.

   The System Restore window opens.
5. Follow the on-screen instructions.

Performing a recovery

You can recover only files that you have previously backed up. HP recommends using Recovery Manager to create an entire drive backup as soon as you set up the computer.

Recovery Manager software allows you to repair or restore the system if you experience system failure or instability. Recovery Manager works from recovery discs or from a dedicated recovery partition (select models only) on the hard drive. However, if the computer includes a solid-state drive (SSD), you might not have a recovery partition. If that is the case, recovery discs have been included with the computer. Use these discs to recover your operating system and software.

Windows has its own built-in repair features, such as System Restore and driver roll-back capabilities. Try these features before using Recovery Manager.

Recovery Manager recovers only software that was preinstalled at the factory. Software not provided with this computer must be downloaded from the manufacturer's website or reinstalled from the disc provided by the manufacturer.

Recovering from the recovery discs

To restore the system from the recovery discs:

1. Back up all personal files.
2. Insert the first recovery disc into the optical drive and restart the computer.
3. Follow the on-screen instructions.

Recovering from the dedicated recovery partition (select models only)

If the computer includes a solid-state drive (SSD), you might not have a recovery partition. Recovery discs have been included for computers that do not have a partition. Use these discs to recover your operating system and software. To check for the presence of a recovery partition, select **Start > Computer**. If the partition is present, an HP Recovery drive is listed in the Hard Disk Drives section of the window.

On some models, you can perform a recovery from the partition on the hard drive from either the Start button or the **f11**key. This restores the computer to its factory condition.

To restore the system from the partition:

1. Access Recovery Manager in either of the following ways:
   - ❏ Select **Start > All Programs > Recovery Manager > Recovery Manager**.

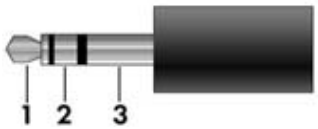
     – or –
   - ❏ Restart the computer and press the **f11** key while the Press <F11> for recovery message appears on the screen. Then select **Recovery Manager**.

   Recovery Manager opens.
2. Click **Advanced Options**.
3. Click **System recovery**, and then click **Next**.
4. Follow the on-screen instructions.

8

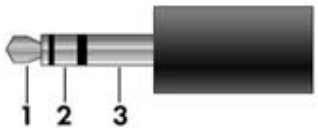
Connector pin assignments

Audio-in (microphone)



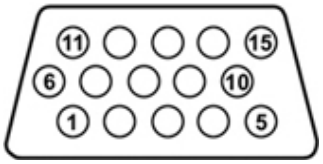
Pin	Signal
1	Audio signal in
2	Audio signal in
3	Ground

Audio-out (headphone)



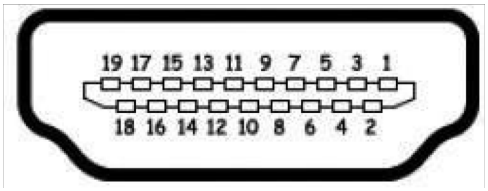
Pin	Signal
1	Audio out, left channel
2	Audio out, right channel
3	Ground

External monitor



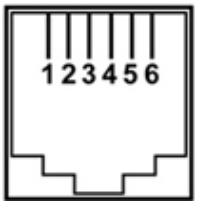
Pin	Signal
1	Red analog
2	Green analog
3	Blue analog
4	Not connected
5	Ground
6	Ground analog
7	Ground analog
8	Ground analog
9	+5 VDC
10	Ground
11	Monitor detect
12	DDC 2B data
13	Horizontal sync
14	Vertical sync
15	DDC 2B clock

HDMI



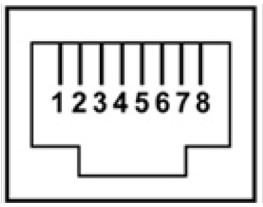
Pin	Signal
1	Transition minimized differential signal (TDMS) data 2+
2	Transition minimized differential signal (TDMS) data 2 shield
3	Transition minimized differential signal (TDMS) data 2-
4	Transition minimized differential signal (TDMS) data 1+
5	Transition minimized differential signal (TDMS) data 1 shield
6	Transition minimized differential signal (TDMS) data 1 shield
7	Transition minimized differential signal (TDMS) data 0+
8	Transition minimized differential signal (TDMS) data 0 shield
9	Transition minimized differential signal (TDMS) data 0-
10	Transition minimized differential signal (TDMS) Clock +
11	Transition minimized differential signal (TDMS) data clock shield
12	Transition minimized differential signal (TDMS) data clock-
13	Consumer electronics control (CEC)
14	Not connected
15	Display data channel (DDC) clock
16	Display data channel (DDC) data
17	Ground
18	+5V Power
19	Hot plug detect

RJ-11 (modem)



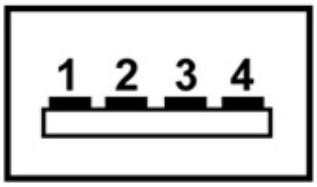
Pin	Signal
1	Unused
2	Tip
3	Ring
4	Unused
5	Unused
6	Unused

RJ-45 (network)



Pin	Signal
1	Transmit +
2	Transmit -
3	Receive +
4	Unused
5	Unused
6	Receive -
7	Unused
8	Unused

Universal Serial Bus



Pin	Signal
1	+5 VDC
2	Data -
3	Data +
4	Ground

9

Power cord set requirements

The wide range input feature of the computer permits it to operate from any line voltage from 100 to 120 volts AC or from 220 to 240 volts AC.

The 3-conductor power cord set included with the computer meets the requirements for use in the country or region where the equipment is purchased.

Power cord sets for use in other countries and regions must meet the requirements of the country or region where the computer is used.

Requirements for all countries and regions

The requirements listed below are applicable to all countries and regions:

- The length of the power cord set must be at least **1.5 m** (5.0 ft) and no more than **2.0 m** (6.5 ft).
- All power cord sets must be approved by an acceptable accredited agency responsible for evaluation in the country or region where the power cord set will be used.
- The power cord sets must have a minimum current capacity of 10 amps and a nominal voltage rating of 125 or 250 VAC, as required by the power system of each country or region.
- The appliance coupler must meet the mechanical configuration of an EN 60 320/IEC 320 Standard Sheet C13 connector for mating with the appliance inlet on the back of the computer.

Requirements for specific countries and regions

Country/region	Accredited agency	Applicable note number
Australia	EANSW	1
Austria	OVE	1
Belgium	CEBC	1
Canada	CSA	2
Denmark	DEMKO	1
Finland	FIMKO	1
France	UTE	1
Germany	VDE	1
Italy	IMQ	1
Japan	METI	3
The Netherlands	KEMA	1
Norway	NEMKO	1
The People's Republic of China	CCC	5
South Korea	EK	4
Sweden	SEMKO	1
Switzerland	SEV	1
Taiwan	BSMI	4
The United Kingdom	BSI	1
The United States	UL	2

1. The flexible cord must be Type HO5VV-F, 3-conductor, 1.0-mm² conductor size. Power cord set fittings (appliance coupler and wall plug) must bear the certification mark of the agency responsible for evaluation in the country or region where it will be used.
2. The flexible cord must be Type SPT-3 or equivalent, No. 18 AWG, 3-conductor. The wall plug must be a two-pole grounding type with a NEMA 5-15P (15 A, 125 V) or NEMA 6-15P (15 A, 250 V) configuration.
3. The appliance coupler, flexible cord, and wall plug must bear a “T” mark and registration number in accordance with the Japanese Dentori Law. The flexible cord must be Type VCT or VCTF, 3-conductor, 1.00-mm² conductor size. The wall plug must be a two-pole grounding type with a Japanese Industrial Standard C8303 (7 A, 125 V) configuration.
4. The flexible cord must be Type RVV, 3-conductor, 0.75-mm² conductor size. Power cord set fittings (appliance coupler and wall plug) must bear the certification mark of the agency responsible for evaluation in the country or region where it will be used.
5. The flexible cord must be Type VCTF, 3-conductor, 0.75-mm² conductor size. Power cord set fittings (appliance coupler and wall plug) must bear the certification mark of the agency responsible for evaluation in the country or region where it will be used.

10

Recycling

Battery

When a battery has reached the end of its useful life, do not dispose of the battery in general household waste. Follow the local laws and regulations in your area for computer battery disposal.

Display

WARNING: The backlight contains mercury. Exercise caution when removing and handling the backlight to avoid damaging this component and causing exposure to the mercury.

CAUTION: The procedures in this chapter can result in damage to display components. The only components intended for recycling purposes are the liquid crystal display (LCD) panel and the backlight. When you remove these components, handle them carefully.

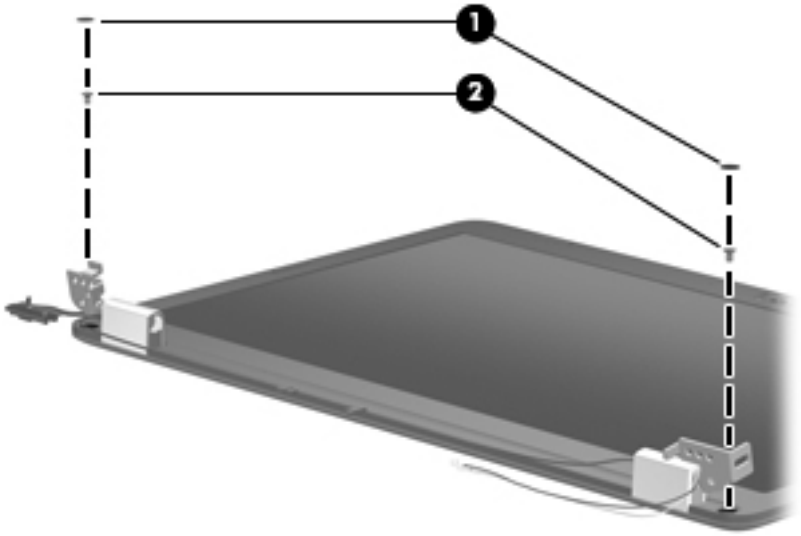
Materials Disposal. This product contains mercury in the backlight in the display assembly that might require special handling at end-of-life. Disposal of mercury might be regulated because of environmental considerations. For disposal or recycling information, contact your local authorities, or see the Electronic Industries Alliance (EIA) Web site at http://www.eiae.org.

This section provides disassembly instructions for the display assembly. The display assembly must be disassembled to gain access to the backlight ❶ and the liquid crystal display (LCD) panel ❷.

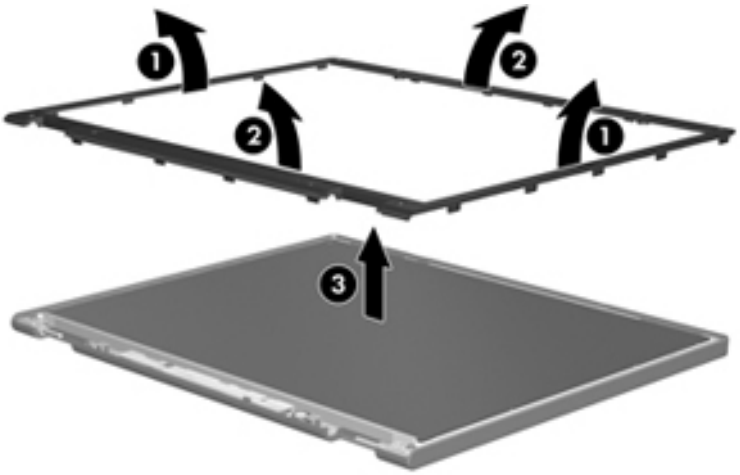
The procedures provided in this chapter are general disassembly instructions. Specific details, such as screw sizes, quantities, and locations, and component shapes and sizes, can vary from one computer model to another.

Perform the following steps to disassemble the display assembly:

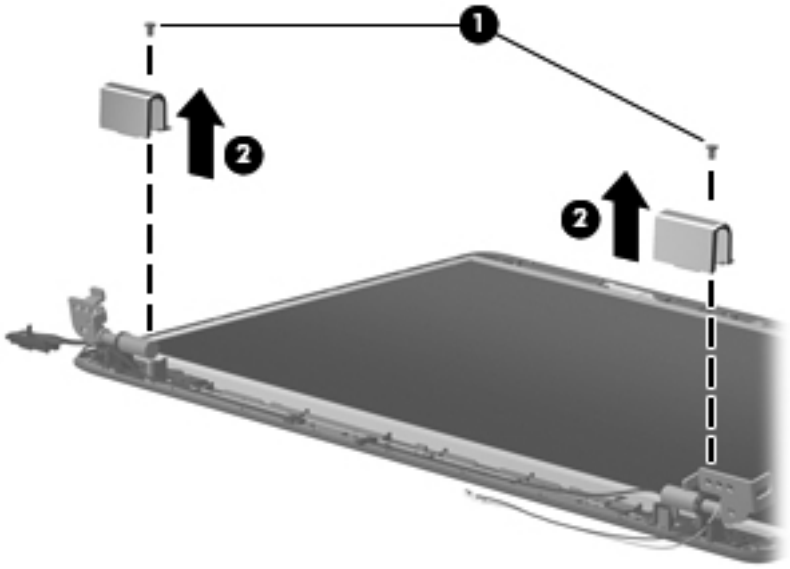
1. Remove all screw covers ❶ and screws ❷ that secure the display bezel to the display assembly.



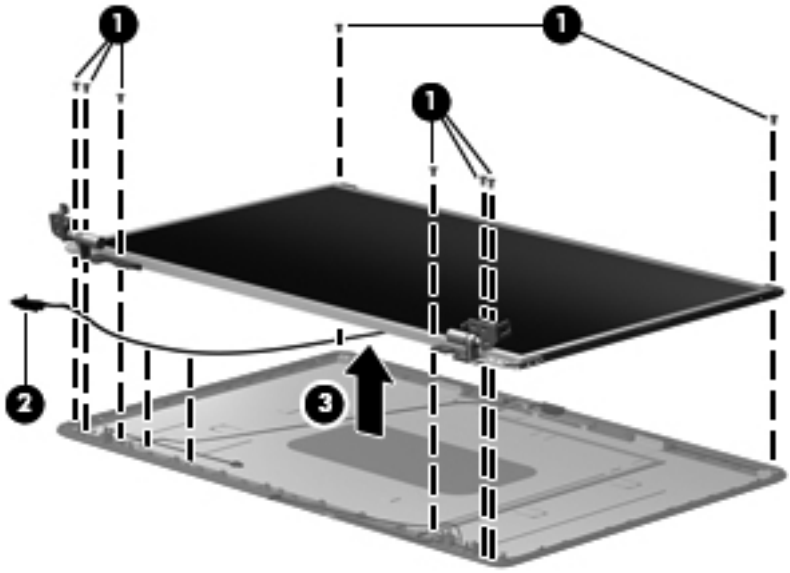
2. Lift up and out on the left and right inside edges ❶ and the top and bottom inside edges ❷ of the display bezel until the bezel disengages from the display assembly.
3. Remove the display bezel ❸.



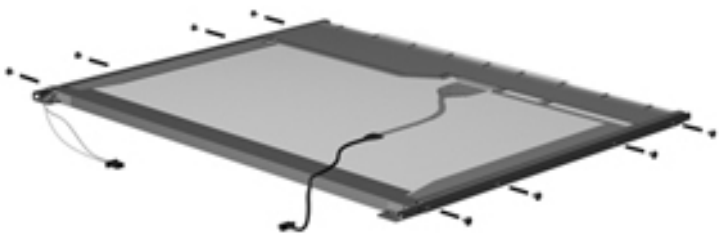
4. Remove the two screws ❶ that secure each hinge to the display enclosure and lift up to remove the display hinge covers ❷.



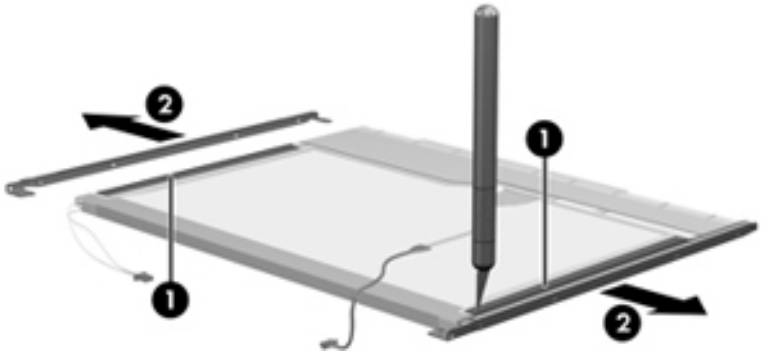
5. Remove all screws ❶ that secure the display panel assembly to the display enclosure.
6. Remove the display panel assembly ❷ from the display enclosure.



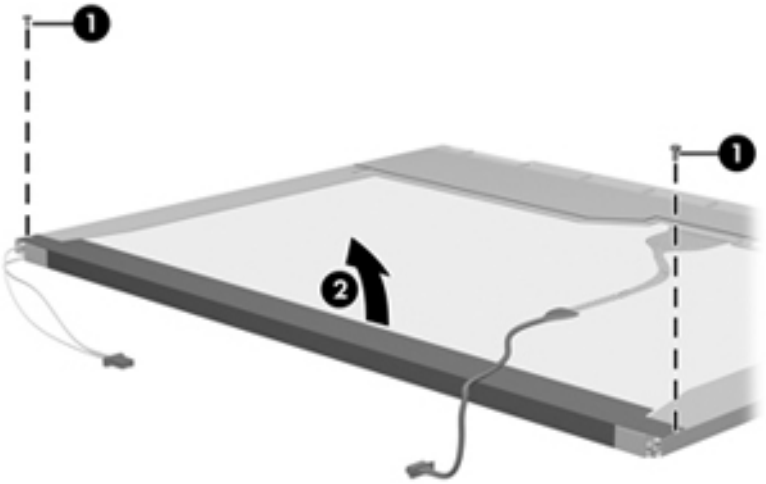
7. Turn the display panel assembly upside down.
8. Remove all screws that secure the display panel frame to the display panel.



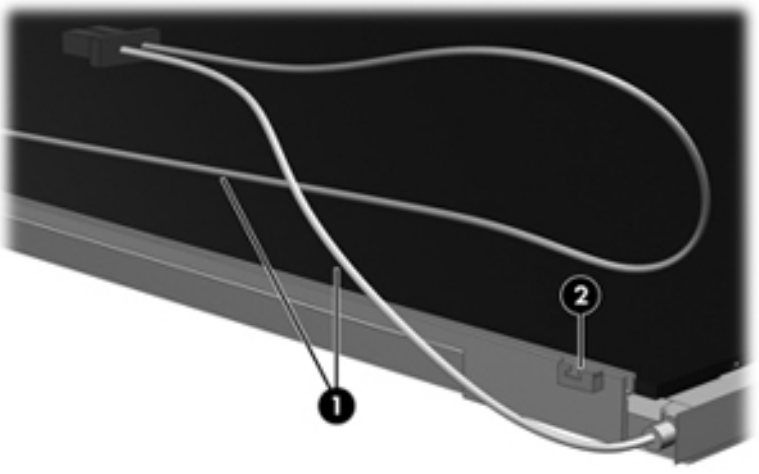
9. Use a sharp-edged tool to cut the tape ❶ that secures the sides of the display panel to the display panel frame.
10. Remove the display panel frame ❷ from the display panel. Remove the screws ❶ that secure the backlight cover to the display panel.



11. Lift the top edge of the backlight cover ❷ and swing it outward.

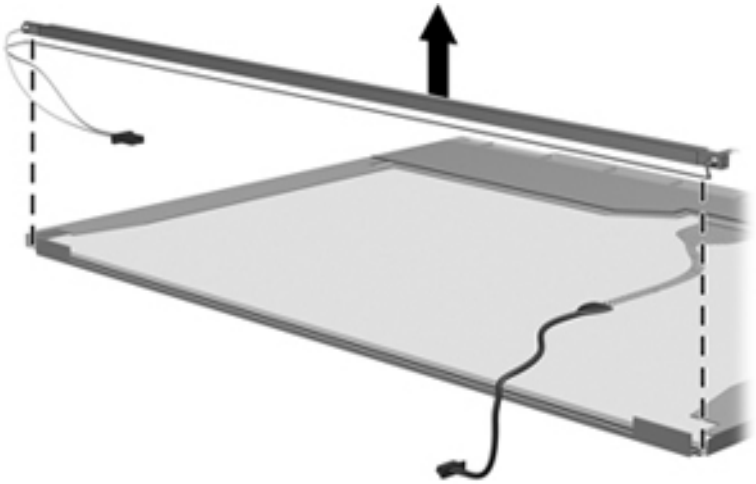


12. Remove the backlight cover.
13. Turn the display panel right-side up.
14. Remove the backlight cables ❶ from the clip ❷ in the display panel.

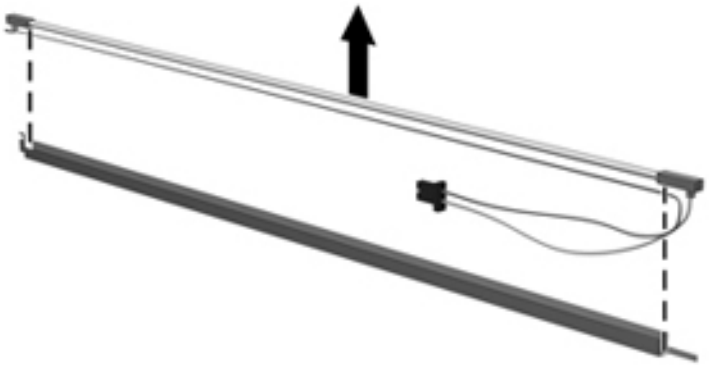


15. Turn the display panel upside down.
16. Remove the backlight frame from the display panel.

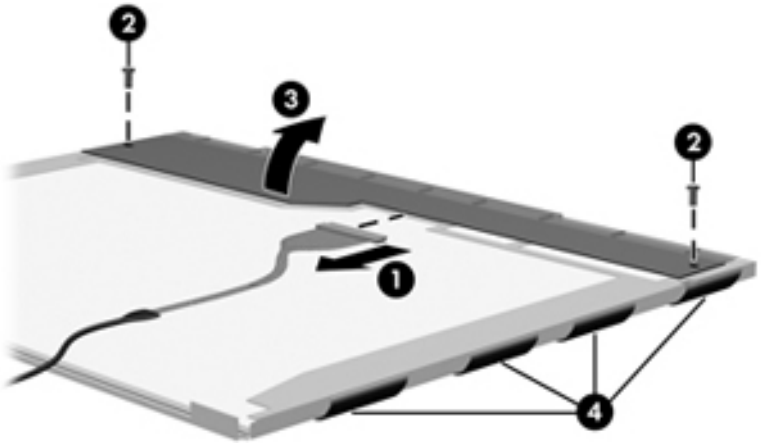
WARNING: The backlight contains mercury. Exercise caution when removing and handling the backlight to avoid damaging this component and causing exposure to the mercury.



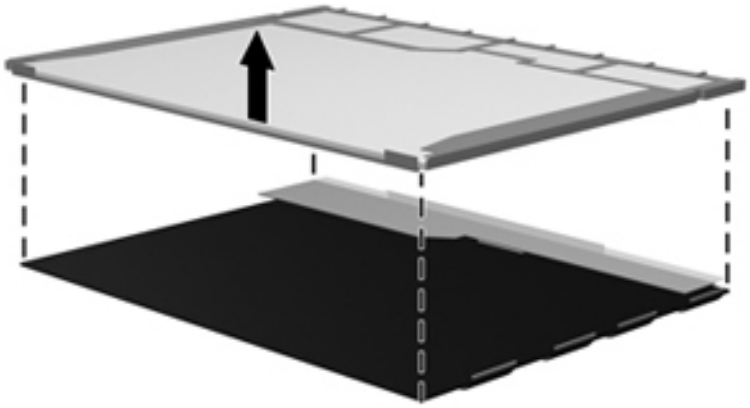
17. Remove the backlight from the backlight frame.



18. Disconnect the display cable ❶ from the LCD panel.
19. Remove the screws ❷ that secure the LCD panel to the display rear panel.
20. Release the LCD panel ❸ from the display rear panel.
21. Release the tape ❹ that secures the LCD panel to the display rear panel.



22. Remove the LCD panel.



23. Recycle the LCD panel and backlight.